ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

DETERMINANTS OF CUSTOMER SATISFACTION ON PHARMACEUTICAL IMPORT AND DISTRIBUTION: THE CASE OF ADDIS ABABA, ETHIOPIA.

BY

NITSUHE WORKU

JUNE, 2020

ADDIS ABABA, ETHIOPIA

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Nitsuhe Worku

A Thesis Submitted to the St. Mary' s University School of Graduate Studies of Business Department in Partial Fulfillment of the Requirement for the Degree of Master of arts in General Business Administration.

Advisor: Dr.Worku Mekonnen(Ph.D.)

June, 2020

Addis Ababa, Ethiopia

Determinants of Customer Satisfaction on Pharmaceutical Import and Distribution: The Case of Addis Ababa, Ethiopia.

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Nitsuhe Worku

Approved by board of examiners

Dean, Graduate Studies	Signature
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Advisor	Signature
_____	_____
External Examiner	Signature
_____	_____
Internal Examiner	Signature
_____	_____

June, 2020

Addis Ababa, Ethiopia

Declaration

I Nitsuhe Worku declare that this thesis submission is my own work towards the award of the degree of Masters of Arts in Customer Satisfaction on Pharmaceutical Import and Distribution the case of Addis Ababa, Ethiopia that to be the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the university for masters except where due acknowledgement has been made in specified.

Name: NitsuheWorku

Signature----------

Date----------

Acknowledgement

I would like to thank my family for the continuous support they have given me throughout my life**.** Besides, I would like to thank my advisor Dr. Worku Mekonnen for guiding my thesis. Especially I would like to thank him for the advice he gave me, the excellent and invaluable support he provided during the course of preparing this study. I would also like to thank all Wholesalers and Retail Pharmacies in Addis Ababa who are participating in this work and responding the questionnaires by giving me their precious times. Lastly, I would like to thank those who have provided me insightful comments, encouragement and support throughout the entire process of conducting the study.

Contents

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List of Acronyms

MSH: Management Science for Health

USAID :United States Agency for International Development

FMOH: Federal Ministry of Health

WHO : World Health Organization

MOTI: Ministry of Trade and Industry

NBE: National Bank of Ethiopia

EDS: Essential drugs

PFSA: Pharmaceutical fund and supply agency

EPSA: Ethiopian Pharmaceuticals Supply Agency

HCMIS : Automatic health commodity management system

FMHACA : Food, Medicine and Healthcare Administration and Control Authority of Ethiopia

EDLs: Essential drug lists

MRIS: Medicine Registration Information System

NPDs : Non-program drugs

TQM: Top quality management

SDP: Service Delivery Point

Abstract

Effective pharmaceutical import and distribution management practices has become a valuable way of securing competitive advantage through customer satisfaction since competition is no longer between organizations, but among members of supply chains. The demand for pharmaceutical supply in Ethiopia has increased dramatically as the number of health facilities, including wholesalers and pharmacies establishments has grown over the last two decades (WHO, 2016). Therefore, this study aims to outline factors associated with pharmaceutical import and distribution and their impact on the level of customer satisfaction in wholesalers and retail pharmacies of Addis Ababa, Ethiopia. The study adopted a case study explanatory design. The targeted population comprises adults as well as Ethiopian of all gender, educational status, socio-economic status and residential areas, who requested pharmaceutical service in pharmaceutical import. This research used six dimensions of pharmaceutical import and distribution (efficiency, collaboration, integration, management practice, responsibility and Information sharing practices) and tested the impact of pharmaceutical import and distribution on customer satisfaction. Representative samples are selected using a formula (Cocharan formula).The data for the study was collected from 385 customers of different wholesalers and retail pharmacies. In addition, a questionnaire also distributed for technical managers of wholesalers, sales representatives of wholesalers, head pharmacists and Dispensers as a supporting data .The relationships proposed in the framework were tested using Pearson correlation, and the causal relations were analyzed using regression analysis. From the result of the analysis it is concluded that there is low and negligible relationship between each pharmaceutical import and distribution practices (efficiency, collaboration, integration, management practice, responsibility and Information sharing practices) and customer satisfaction. Therefore, in order to achieve advancement of pharmaceuticals service in the long-run through enhancing customer satisfaction, it is better for the pharmaceutical importers to give due emphasis to the improvement of those pharmaceutical import and distribution practices.

Keywords: Pharmaceuticals, pharmaceutical import and distribution management, customer, satisfaction, practices, wholesalers, retile pharmacies.

Chapter One

Introduction

1.1. Background of the Study

Customer satisfaction has long been recognized as one of the critical success factor in today's competitive business environment as it affects companies' market share and customer retention (Ooi et al. 2011). O'Sullivan and McCallig (2012) also find that customer satisfaction positively and significantly moderates the earnings-firm value relationship as customer satisfaction is key operational performance measure for all business concerns (Terziovski. 2006).

Evangelos and Yannis (2005, 5) mentioned in their book about main advantages of measuring customer satisfaction, one- measuring customer satisfaction helps to evaluate business current position against its competition and accordingly design its future plans. Second- Satisfaction measurement is able to identify potential market opportunities. Third- it helps to understand customer behavior and particularly to identify and analyze customer expectations, needs and desire. Fourth- It improve the communication the total clientele. Fifth- By this measurement it is also possible to examine whether new actions, efforts and programs have any impact on the organizations' clientele. Sixth- Organizations weakness and strength against competition are determined, based on customers' perceptions and judgment.

Only customer satisfaction is not enough in today's business perspective rather there has to be extremely satisfied customer, because it leads to customer loyalty. Some author also mention that building customer loyalty is not a choice for business, but it is the only way of building sustainable competitive advantage. Though there is no definite rule to create customer loyalty but study shown these following aspects might help to build that, firstly- focus on key customers, secondly- generating high level of customer satisfaction with every interaction proactively, thirdly- understand customer needs and demand, then respond to them before the competition does, fourthly- develop closer ties with customers and finally- create a value perception'. Bonsal and Gupta (2001).

Customer satisfaction is one of the most important issues concerning business organizations of all types. Business organizations try to give best service to the customer and also look for the reason that can increase the satisfaction level. According to Hokinson (1995, 13), these factors include friendly employees, knowledgeable employees, Helpful employees, accuracy of billing, billing timeliness, competitive pricing, service quality, good value, billing clarity and quick service.

Customer satisfaction is significantly influenced by the customer's evaluation of product or service features. Thus, firms also study concerning satisfaction what features and attributes of their services customer measure most and that firms measures the perceptions of those features and overall service satisfaction. In this regard, research has found that normally customers make trade-offs among service like, price level versus service quality or friendliness of personnel versus customization. (Zeithaml et al. 2006, 110-111)

Perception of equity and fairness has a great impact on customer satisfaction. Customers usually think about whether they treated fairly compare to other customer, was the price eligible for the service, was they get good service. These senses of fairness are central to customer satisfaction, particularly in service recovery situations. (Zeithaml et al. 2006, 112

The effectiveness of a country's pharmaceutical supply chain system is a key determinant factor for the successful provision of quality healthcare and medicines to its citizens (Hart, 2004; McCabe et al., 2011; MSH, 2012; USAID/DELEVER, 2011b; Yadav, 2015). A well-functioning pharmaceutical supply chain is one that ensures continuous availability of quality medicines to the end-user while returning accurate market demand and consumption information to the supplier (Yadav, 2015). Since the first publication of Managing Drug Supply in 1982 by Management Sciences for Health (MSH), the concept of pharmaceutical supply chain management has evolved over time and continues to be an important area of interest to many researchers (Aronovich et al., 2010; Lambert and Cooper, 2000; MSH, 2012).

Despite all the progress made in supply chain management over the past two decades, lives are still being lost in developing countries like Ethiopia as a result of inefficiencies in pharmaceutical supply management (Kohler et al., 2012; MSH, 2012; Nair et al., 2010).

Inability of distribution of pharmaceuticals effectively and efficiently is a major barrier to health facility in order to fulfill the right of every person to obtain and use health commodities when they are needed, there for the supply and distribution of medicines are a fundamental aspect of the success of any health system. Disruptions to this supply of medicines undermine health outcomes as supply chains have an impact on the availability, cost and quality of medicines available to patients. The use of technologies can further enhance the efficiency in daily operations for faster and more accurate delivery. Technologies like track and trace systems can also increase the visibility of logistics end users, allowing customers to track their shipment or package and to know when the delivery will be performed. Pharmaceutical products may require more security, speedier delivery (especially for those with quick expiration dates), and special handling for those products with temperature restrictions (Javalgi and Reisenwitz 2001)

Distribution is an element of the marketing mix; others include product, pricing and promotion that are defined as making products or services available for use by consumers using direct or indirect means (Kotler, Keller & Burton 2009).

Nevertheless, studies on customer satisfaction on pharmaceutical import and distribution system in Ethiopia are very scarce and those that are available focus mainly challenges ,Mesfin Lemma, 2018;*Performance* ,Yenesew Shambel , and in pharmaceutical supply chain system on the public sector and program drugs (Daniel et al., 2012; FMOH⎪WHO, 2003; Lissan work, 2013; Mudzteba, 2014; Suleman et al., 2016). Therefore, this study aims to fill the research gap in the private sector focus on customer satisfaction regarding Pharmaceutical import and distribution system in Ethiopia. This is a significant gap considering that 80% of the medicines consumed in Ethiopia are imported while only 20% is supplied by local manufacturers (MOH⎪MOI, 2015). Due to this reason most of customers may not satisfied regarding availability and distributed in the right way of pharmaceutical products in the country.

1.2. Statement of the Problem

Ethiopia requires that all pharmaceutical imports be channeled through Ethiopian nationals registered with the Ministry of Trade and Industry (MOTI) as official importers or distribution agents. The importer or agent is required to apply for an import license, and register with the MOT as well as the National Bank of Ethiopia (NBE) for a foreign exchange permit. Access to foreign exchange is the leading obstacle faced by Ethiopian pharmaceutical importers seeking to source goods and services from the international market. Importers often wait for several months to open a letter of credit for imports and receive an allocation of U.S. dollars due to an acute scarcity of foreign exchange (export.gov 2019).

According to most Ethiopian pharmaceutical importers compliance and experience Pharmaceutical importers in Ethiopia are not able to import and distribute medicines in the right quality and quantity at the right time due to prolong of medicine registration process in the Ethiopian food drug control authority.

In addition to the above issue related to import and distributed pharmaceutical products in Ethiopia, when we round and distributed pharmaceutical products to customers we observed several compliance from wholesalers ,retailers and patients regarding drug shortages, fluctuate the cost of pharmaceutical products and instability of pharmaceutical market sector due to existence of unethical health professional (promoters, prescribers, buyers and sellers).

The research problem of interest is that customers are not able to be satisfied regarding Ethiopian pharmaceutical importers due to incapable to import and distribute medicines in the right quality and quantity at the right time. According to FMOH (2015), poor supply of medicines (44.7%) by public and private importers was observed at assessments made in 17 hospitals in Ethiopia. The same assessment also revealed that availability of medicines was as low as 33.3% in some of the hospitals, which is extremely poor against PFSA's target of 100% availability. Hence, this study attempts to asses customer satisfaction in pharmaceutical import and distributed in Ethiopia in order to improve customers satisfaction, create customer loyalty and formulate solutions to ensure competitive business environment.

1.3. Basic Research Questions

In view of the stated problem, the grand research question is

- How effective is import and distributed process related to availability, quality, cost and safety of pharmaceutical products in Addis Ababa?
- What are the challenges to import and distribute pharmaceutical products in Addis Ababa?
- How do business pharmaceutical importers with wholesalers and retailers in Addis Ababa ?
- What are the major factors affecting to import and distributed pharmaceutical products in Addis Ababa?
- What is the reaction of customer satisfaction on the service of import and distributed pharmaceutical product in Addis Ababa?

1.4. Objective of the study

1.4.1. General Objective

The general objective of this study is assessed customer satisfaction regarding to import and distribute pharmaceutical products in case of certain pharmaceutical importers in Addis Ababa.

1.4.2. Specific Objectives

- To assess customer satisfaction in import and distribute pharmaceutical products in terms of cost, quality, safety, availability and time in end to end supply chain in Addis Ababa.
- To identify the challenges regarding to import and distributed pharmaceutical products in Addis Ababa.
- To identify how pharmaceutical importers promote and distributed their products in to customers and integrated to health facility in Addis Ababa.
- To identify factors affecting import and distribution pharmaceutical products in Addis Ababa.
- To assess the reaction of customer satisfaction on the service of import and distributed pharmaceutical product in Addis Ababa.

1.5. Significance of the Study

This study determined the extent of pharmaceutical importers coordinate with wholesalers ,retailers and customer in order to solve problems regarding data reporting ,collection and analyzing, assessed factors associated with wholesalers ,retailers and customer satisfaction regarding to import and distributed pharmaceutical products such as provider ability, wait time, pharmaceutical product availability, facility appearance, wholesalers ,retailers and customer expectation…etc; and identified some of the challenges related with wholesalers ,retailers and customer satisfaction in pharmaceutical import and distribution in Addis Ababa .The finding and recommendation of the study may be useful for policy makers and other stakeholder to find ways of improving wholesalers, retailers and customer level.

The study may be contributes to government policy formulation that would enable constant availability of drug and medical supplies in pharmacies as well as public health institutions. This intern results improved service provision in health sector. In addition to this, the study assisted stake holders (producers, importers, wholesalers, and retailers) in their endeavor to utilized pharmaceutical import and distribution management practices to improve inventory. The study can also be useful for academicians to study further in the area.

1.6. Scope of the Study

The scope of this study was to measure empirically the import and distribution of pharmaceutical products at wholesalers and retailers on customer satisfaction level in pharmaceutical importers of Ethiopia in city government of Addis Ababa. Addis Ababa an area of540 km with a total population of 6.6 Million. The population of Addis Ababa in the year 2019 as per estimated data=6.6million (population of 2019 .com). It is administratively sub-divided into 10 sub-cities (City Government of Addis Ababa, 2012). According EFDA and Mris web site the total number of importers is 133, the total number of wholesaler is 324 ,11 public hospitals, 37 private and NGO hospitals, and 50 Health Centers, while 25 more Health Centers are under construction. 372 Retail pharmacies and 1699 drugstores are also active in the city. The study conducted on thirty- five (35) selected whole sealers and thirty- seven (37) Retail pharmacies in Addis Ababa.. The study utilized both quantitative and qualitative research methods through a case study explanatory design. The study does not include governmental hospital pharmacy, drug stores, rural and drug venders in Addis Ababa and outside Addis Ababa. This is due to time and budgetary constraints.

1.7. Limitation of the Study

The limitation of the study is that it only focuses on the case of "pharmaceutical importers" of Addis Ababa. Assessing pharmaceutical import and distributed on the level of customer satisfaction in, drug stores, drug venders and governmental of the pharmaceutical sector in Ethiopia is not included due to time and budget

1.7. Operational Definition of Terms

Pharmaceuticals: all medicine, laboratory reagent, medical supplies and medical equipments

Pharmaceutical distribution: The division and movement of pharmaceutical products from manufacturer or importer to whole sealers, retailers or another central point, to the end user thereof, or to an intermediate point by means of various transport methods, via various storage and/or health establishments.

Customer satisfaction: indicates the fulfillment that customers derive from doing business with a firm. In other words, it's how happy the customers are with their transaction and overall experience with the company**.**

Wholesaler: a person or company that sells goods in large quantities at low prices, typically to retailers**.**

Retailer: a person or business that sells goods to the public in relatively small quantities for use or consumption rather than for resale.

Pharmacy: a shop or hospital dispensary where medical drugs are prepared or sold. **Distribution:** is the process of ensuring movement of products and ensuring they are in the right place.

1.8. Organization of the Study

This study is organized as follows: chapter one presents the introductory part of the Study, which comprises the back ground of the study, statement of the problem along with the Research questions and objectives of the proposed study. Chapter two presents a brief literature review of current publications that are related to customer (wholesaler, retailer and customer) satisfaction and pharmaceutical import and distributed is presented. This followed by research

methodology consists of a case study describing what and how of customer (wholesaler, retailer and customer) satisfaction level. Next to this, pharmaceutical import and distributed placed as a means to bring optimum customer (wholesaler, retailer and customer) satisfaction level. Synthesis and analysis of data presented to highlight some aspect of the above mentioned case, focusing on problems and solutions that are critical to achieve optimum customer (wholesalers and retail pharmacy) satisfaction level. Lastly, the final chapter presents summary of major findings, conclusions and recommendations.

Chapter Two

Related Literature Review

2.1. Theoretical Review

In this thesis, theoretical background is divided into two parts which are pharmaceutical import & distribution on customer satisfaction.

In the first part of theory, general idea of distribution, system, challenges in pharmaceutical distribution and the general view of pharmaceutical import in Ethiopia is discussed. The second section of the theory is discussed about the importance of customer satisfaction, measuring customer satisfaction, factors that affect customer satisfaction.

2.1.1. Overview of Pharmaceuticals Distribution

The distribution procedure has the end goal of handing over prescribed drugs at the right time and in the proper quantities to satisfy health facility demands; it entails a number of things to do along the provide chain, from demand planning to the bodily delivery of drug treatments to the health facility. The World Health Organization (WHO) defines a drug or pharmaceutical education as: any substance or mixture of components manufactured, sold, offered for sale or represented for use in the diagnosis, treatment, mitigation or prevention of disease, unusual bodily country or the signs and symptoms thereof in man or animal; [and for use in] restoring, correcting or editing natural functions in man or animal. The distribution of pharmaceutical merchandise is an vital undertaking in the grant chain and involves several players. It consists of procuring, holding, supplying, importing and exporting of pharmaceutical products. Distribution things to do are carried out through manufacturers, importers, wholesalers/distributors, shops and other people licensed to grant pharmaceutical products in the public and private sectors (NAFDAC, 2016).According to WHO(2010),pharmaceutical distribution is procuring ,purchasing ,holding ,selling, imparting ,importing , exporting or movement of pharmaceutical

products with the exception of the allotting or imparting pharmaceutical merchandise at once to the patient or his or her agent. the major drug distribution management aim is to keep a consistent grant of pharmaceuticals and resources to facilities where they are needed, whilst ensuring that resources are being utilized in the most effective manner. Adequate and dedicated transportation services laced with bloodless chain upkeep are an important component in keeping the timely distribution of great medicines round the clock at health facilities. (Mir JavidIqbal , 2017).Pharmaceutical distribution has never been just about delivering. It is about getting the proper drugs to the right sufferers at the right time, safely and efficiently. Every day, pharmaceutical distributors maintain a complex provide chain, serving as an essential link in the healthcare system and turning in drug treatments safely, securely and efficiently. Distributors work round the clock to assist pharmacies, hospitals, long-term care facilities, clinics and different healthcare carriers preserve their shelves stocked with the medications and merchandise that patients need. Different statistics technologies such as product identification, bar coding, utilization associated information, and digital identification have been applied to facilitate the rapid distribution of the pharmaceuticals in the supply chain (Belson, 2005).

2.1.2 .Pharmaceutical Distribution Management

2.1.2.1. Pharmaceuticals storage device and inventory Management

An essential intention in storage of fitness products is the right staging of health merchandise to ensure that orders can be crammed and distributed. Storage ensures the physical integrity and protection of merchandise and their packaging, at some stage in the number storage facilities, until they are dispensed to clients. (USAID | DELIVER PROJECT, 2015).Medicinal merchandise have to typically be saved aside from other items and beneath the prerequisites detailed by using the producer in order to keep away from any deterioration by using light, moisture or temperature.

The layout of a warehouse is key to its environment friendly operation. In developing warehouse or distribution core layouts, pharmaceutical companies face special challenges due to the nature of their products. Pharmaceuticals are touchy no longer only to exterior infection from bacteria or chemical compounds however also to temperature changes. In some cases, even lighting can injury pharmaceuticals. Pharmaceuticals should additionally be stored in a way that makes it

effortless to use a first-in, first-out machine and that continues this vital and costly merchandise safe from theft and deliberate contamination. These special requirements mean that many factors need to be regarded when setting up a warehouse for pharmaceutical storage (IGPS 2019).

Proper storage facility for tablets ensures the effectiveness, safety, strength, and exceptional of drugs. Unless the capsules are segregated from different non-pharmaceutical objects and saved properly, lengthy shelf life of the drugs is no longer guaranteed. Medicines need to be saved to keep the intended nice and stop damage while dealing with until it reaches the consumer (Harish Ganesh Joshi 2015).

Poor storage conditions, high temperature and high humidity conditions usually decorate chemical degradation and may also alter the biopharmaceutical residences of the drugs, interactions might also occur when merchandise are exposed at high temperature and humidity, therefore decreasing the dissolution rate(Bonn 2012).

Medicine wants to be stored in warehouses under fantastic stipulations concerning security, temperature, prerequisites and storage area. Furthermore, a correct inventory management is crucial to make sure sufficient inventory levels. Therefore, techniques such as ordinary stocktaking, inventory reconciliation, first-expired-first-out practices and traceability of batches are beneficial. Research outlines that greater centralized ware-house administration mannequin with tips and popular operating processes increased performance (anna schopperle2013).

Medicines be saved underneath prerequisites which make certain that their nice is maintained. The temperature of storage is one of the most essential factors that can affect the stability of a medicine. If medicines are not saved top they may additionally now not work in the way they have been intended, and so pose a attainable hazard to the health and wellness of the person receiving the medicine(care inspector 2016).

Inventory Management is the core of pharmaceutical supply management, besides which the complete grant chain structure is no longer viable. The thinking of inventory administration sounds effortless when it is just described as the manner to order, receive, storage, issue and then reordering of a constrained list of product. In reality, implementation of a sturdy stock machine for a pharmaceutical grant is a challenging mission (Management Sciences for Health, 2012).

A “sick” inventory arises due to character selection making on frequency of reordering and quantity to be ordered, ad hoc structuring, inaccurate inventory recording, lack of transparency, make bigger in complexity, and the absence of systematic monitoring. These troubles mostly arise due to lack of consciousness or information about of scientific stock maintaining and warehouse practices. In growing international locations like India, where budget is tight, overstocking of certain pharmaceutical items might also block a large component of the drug budget, ensuing in insufficient cash for deciding to buy tablets that are more important. For this reason, it is essential to implement or improve an stock control machine in a public pharmaceutical grant to keep a steady provide of drugs to the public. This ensures properly health to all while minimizing the expenses associated with stock holding, decreasing order processing, procurement or shipping costs, controlling inventory stages and minimizing stock out prerequisites (Monica BalakrishnanKokilam 2015).

Temperature must be monitored and recorded periodically. Records of temperature be reviewed regularly. Records be maintained of these conditions if they are vital for the preservation of the characteristics of the pharmaceutical product stored (WHO, 2010).

Storing is the safe keeping of prescribed drugs to avoid damage, expiry, and theft. Proper storage tactics assist to make sure that storage facilities guard the shelf lifestyles of products, that solely outstanding products are issued, and that there is little or no waste due to broken or expired products. If ideal storage approaches are followed, customers can be assured that they have received a excessive satisfactory product (IPLS, 2015).

Medicinal products need to be dealt with and stored in such a manner as to prevent spillage, breakage, contamination and mix-ups. Medicinal products need to now not be stored without delay on the floor unless the package is designed to allow such storage (PIC/S GDP 2014).

An efficient stock manage system minimizes spoilage and expiry at all degree most and minimal level are installed at all ranges for drugs and different fitness supplies. The many times practiced periodic ordering or forced ordering, inventory manipulate device at RMS and SDP ensures that at the stop of every evaluation period logistics personnel at these tiers overview all inventory tiers and order enough to carry inventory stages up to the most .Ghana MOH 2009).

Inventory management as the department of enterprise management worried with planning and controlling inventory 2015 (APICS).The role of inventory management is to preserve the preferred stock level of specific merchandise or items. The structures that layout and manipulate inventory should be based totally on the product, the customer, and the method that makes the product available. An effective and devoted storage house gives the right environment for the storage of drugs and commodities and assists the efficient glide of components Mir JavidIqbal|(2017). IM systems or varieties are vital to gather records such as consumption statistics to identify successes and effectively constraints (Transaid, 2013).

2.1.2.2. Transportation in Pharmaceutical Distribution

Transportation refers to the motion of merchandise from one vicinity to another, as the products are hardly ever produced and consumed in the equal place (Tsao& Lu, 2012). In order to understand the function of transportation in the distribution of pharmaceuticals, it is important to think about the perspectives of the parties involved, carriers and shippers. The carriers make funding selections involving transportation tools in order to maximize the return on funding of the assets. They figure out whether or not to use trucks, airplanes or other modes of transportation. On the other hand, shippers use transportation to reduce the whole expenses of operation (e.g., transportation, inventory, facility).Transportation is an critical function in logistics for handing over the commodities to the fitness facility level. In many of the public zone logistics systems, no longer enough interest is given to the development of the transport gadget particularly for delivering products. However for HIV/AIDS program, more attention will want to pay to transport structures because of the nature of the substances being high-volume, high-value and some with brief shelf lives. As a result, transport structures need to be managed with higher security and; successfully in order to decrease lead-times, which can immediately affect the quantity of inventory the gadget wishes to raise .In many countries, transportation is the weakest hyperlink which, if not addressed affects the inventory, order management and patron service. Transportation structures can no longer be managed on an ad-hoc basis, but want to be managed as a scheduled shipping system. This ability that applications want to both invest in transportation structures or are seeking for selections to outsource this function to private groups that can make sure timely, regular delivery. (SangeetaRaja, and Nadeem

Mohammad2004).Pharmaceutical transportation must be secured and encompass the gorgeous documentation to facilitate identification and verification of compliance with regulatory requirements. Policies and procedures must be observed by means of all persons involved in the transportation, to tightly closed pharmaceutical products. (WHO,2010).

2.1.1. Overview of Prescription Drugs Distribution

The distribution method has the give up purpose of turning in prescribed drugs on the proper time and within the proper portions to satisfy health center demands; it includes various of factors to do along the provide chain, from demand making plans to the bodily transport of drug treatments to the clinic. the sector health company (WHO) defines a drug or pharmaceutical training as: any substance or mixture of additives manufactured, offered, presented on the market or represented for use inside the prognosis, treatment, mitigation or prevention of sickness, uncommon bodily united states or the signs and symptoms and signs and symptoms thereof in man or animal; [and for use in] restoring, correcting or enhancing natural capabilities in man or animal. The distribution of pharmaceutical products is an essential challenge inside the provide chain and involves numerous gamers. It includes shopping, maintaining, presenting, importing and exporting of pharmaceutical products. Distribution things to do are executed thru manufacturers, importers, wholesalers/vendors, stores and other human beings licensed to grant pharmaceutical merchandise in the public and personal sectors (NAFDAC, 2016).in keeping with WHO(2010),pharmaceutical distribution is procuring ,buying ,retaining ,promoting, imparting ,uploading , exporting or motion of pharmaceutical merchandise excluding the allotting or imparting pharmaceutical merchandise straight away to the patient or his or her agent. he important drug distribution management intention is to keep a steady provide of prescription drugs and sources to facilities wherein they may be wished, even as ensuring that sources are being applied within the best manner. adequate and committed transportation offerings laced with bloodless chain renovation are an vital element in retaining the timely distribution of outstanding drugs spherical the clock at health facilities. (Mir JavidIqbal , 2017).Pharmaceutical distribution has in no way been just about turning in. it's far approximately getting the proper drugs to the proper sufferers on the proper time, appropriately and efficaciously. each day, pharmaceutical vendors preserve a complex provide chain, serving as an

crucial hyperlink within the healthcare device and delivering drug remedies adequately, securely and efficaciously. Distributors work round the clock to assist pharmacies, hospitals, long-time period care facilities, clinics and special healthcare vendors maintain their cabinets stocked with the medications and products that sufferers want. Exclusive facts technologies including product identity, bar coding, utilization related records, and virtual identity had been carried out to facilitate the rapid distribution of the pharmaceuticals within the supply chain (Belson, 2005).

2.1.2 .Pharmaceutical Distribution Control

2.1.2.1. Pharmaceuticals garage device and stock control

An vital aim in garage of fitness products is the right staging of fitness products to make certain that orders may be filled and distributed. storage ensures the physical integrity and protection of products and their packaging, at a few stage inside the wide variety garage centers, till they're distributed to clients. (USAID | supply project, 2015).Medicinal products must normally be saved other than other objects and underneath the prerequisites designated through the use of the producer so that it will avoid any deterioration by using light, moisture or temperature.

The layout of a warehouse is fundamental to its environment pleasant operation. In growing warehouse or distribution middle layouts, pharmaceutical groups face special demanding situations because of the character of their products. Prescribed drugs are sensitive now not only to outside infection from microorganism or chemical compounds but also to temperature modifications. In some cases, even lighting can harm prescribed drugs. Pharmaceuticals must additionally be stored in a manner that makes it handy to use a primary-in, first-out machine and that maintains this vital and expensive products safe from robbery and planned infection. Those special requirements mean that many elements need to be seemed whilst putting in a warehouse for pharmaceutical garage (IGPS 2019).

right storage facility for pills guarantees the effectiveness, safety, strength, and terrific of drugs. except the tablets are segregated from exclusive non-pharmaceutical items and saved well, prolonged shelf lifestyles of the medicine is not assured. Medicines want to be stored to hold the supposed nice and forestall damage even as managing until it reaches the consumer (Harish Ganesh Joshi 2015).

Negative garage situations, high temperature and excessive humidity situations usually decorate chemical degradation and can additionally adjust the biopharmaceutical houses of the drugs, interactions may arise when products are exposed at high temperature and humidity, therefore reducing the dissolution charge (Bonn 2012).

Medicinal drug desires to be saved in warehouses under superb conditions concerning safety, temperature, stipulations and garage place. Furthermore, accurate inventory management is crucial to make certain enough stock stages. consequently, techniques inclusive of ordinary stocktaking, stock reconciliation, first-expired-first-out practices and traceability of batches are beneficial. research outlines that greater centralized ware-residence administration model with suggestions and famous running tactics increased overall performance (anna schopperle2013).

medicines be stored under stipulations which make certain that their high-quality is maintained. The temperature of storage is one of the most critical elements which can affect the stability of a remedy. If drugs aren't stored pinnacle they'll additionally no longer work in the manner they had been meant, and so pose a viable risk to the fitness and health of the man or woman receiving the medication(care inspector 2016).

inventory management is the middle of pharmaceutical deliver management, besides which the whole furnish chain structure is now not possible. The taking into account stock management sounds handy while it is just described as the way to reserve, get hold of, garage, issue and then reordering of a limited listing of product. In truth, implementation of a sturdy stock machine for a pharmaceutical furnish is a difficult undertaking (control Sciences for fitness, 2012).

A “unwell” inventory arises because of character choice making on frequency of reordering and amount to be ordered, ad hoc structuring, misguided stock recording, lack of transparency, amplify in complexity, and the absence of systematic monitoring. Those issues on the whole rise up because of lack of focus or facts about of scientific stock keeping and warehouse practices. In developing international places like India, wherein budget is tight, overstocking of certain pharmaceutical objects may also block a huge element of the drug budget, ensuing in inadequate coins for identifying to buy capsules which might be greater vital. for that reason, it is essential to implement or improve an inventory manipulate gadget in a public pharmaceutical furnish to

hold a steady provide of medication to the public. This guarantees well fitness to all at the same time as minimizing the charges related to inventory protecting, decreasing order processing, procurement or transport fees, controlling stock levels and minimizing stock out conditions (Monica Balakrishnan Kokilam 2015).

Temperature should be monitored and recorded periodically. Statistics of temperature be reviewed often. Records be maintained of those conditions if they're vital for the protection of the characteristics of the pharmaceutical product saved (WHO, 2010).

Storing is the safe keeping of pharmaceuticals to keep away from harm, expiry, and theft. right garage approaches help to make certain that storage centers defend the shelf lifestyles of merchandise, that solely first rate merchandise are issued, and that there is very little waste due to damaged or expired products. If ideal storage procedures are followed, clients can be assured that they have acquired a excessive high-quality product (IPLS, 2015).

Medicinal merchandise want to be treated and stored in one of these manner as to prevent spillage, breakage, infection and blend-ups. Medicinal products need to no longer be stored without delay on the floor unless the package is designed to permit such storage (percent/S GDP 2014).

An efficient inventory manage system minimizes spoilage and expiry at all diploma maximum and minimum degree are set up at all stages for drugs and unique fitness resources. The frequently practiced periodic ordering or compelled ordering, stock control device at RMS and SDP guarantees that at the prevent of each evaluation length logistics personnel at those levels evaluation all stock levels and order sufficient to hold inventory degrees as much as the most .Ghana MOH 2009).

stock management because the branch of business enterprise management worried with planning and controlling inventory 2015 (APICS).The function of inventory management is to hold the desired inventory degree of unique merchandise or items. The structures that layout and manage stock must be based totally on the product, the purchaser, and the approach that makes the product available. An powerful and devoted storage house offers the right environment for the storage of drugs and commodities and assists the green go with the flow of additives Mir

JavidIqbal|(2017). IM structures or varieties are vital to gather information which include consumption records to perceive successes and efficiency constraints (Transaid, 2013).

2.1.2.2. Transportation in Pharmaceutical Distribution

Transportation refers to the movement of products from one place to some other, as the goods are not often produced and fed on within the identical vicinity (Tsao& Lu, 2012). with the intention to apprehend the characteristic of transportation within the distribution of prescription drugs, it is important to reflect on consideration on the views of the events concerned, carriers and shippers. The providers make investment choices involving transportation gear so one can maximize the return on investment of the belongings. They discern out whether or no longer to apply vehicles, airplanes or other modes of transportation. however, shippers use transportation to reduce the entire prices of operation (e.g., transportation, inventory, facility).Transportation is an critical function in logistics for delivering the commodities to the fitness facility level. In some of the public region logistics systems, now not enough interest is given to the development of the transport gadget specifically for delivering merchandise. however for HIV/AIDS program, extra interest will want to pay to move structures due to the nature of the materials being excessive-extent, excessive-value and some with quick shelf lives. As a result, delivery structures need to be controlled with better security and; successfully on the way to lower lead-times, that can without delay have an effect on the amount of stock the system desires to elevate .In many nations, transportation is the weakest hyperlink which, if not addressed influences the inventory, order control and consumer service. Transportation structures can no longer be managed on an ad-hoc foundation, however want to be managed as a scheduled shipping system. This ability that packages want to each put money into transportation systems or are searching for selections to outsource this feature to private groups that may make sure well timed, normal transport. (SangeetaRaja, and Nadeem Mohammad2004).Pharmaceutical transportation should be secured and encompass the fantastic documentation to facilitate identity and verification of compliance with regulatory necessities. policies and strategies need to be observed by means of all folks involved in the transportation, to tightly closed pharmaceutical products. (WHO, 2010).

2.1.2. Effective Pharmaceutical Distribution.

In the distribution of pharmaceuticals reducing the cycle time can add the efficiency of the provision chain. When a distributor reduces the time span for distribution cycle, making it short, the costs are going to be decreased. An efficient supply chain is characterized by the timely, reliable movement of health commodities and data up and down the provision chain: from the service delivery point to hospital, consultation room, health posts, clinics. Susarla and Karimi in (2012) describe A well-managed and well-designed distribution system will have Sustain a continuing supply of medicines, Minimize loss because of expiration and damage, Maintain correct inventory records, Utilize available transportation resources efficiently, provide information to work out forecasting medicine needs, and also Integrate a top quality assurance program. The distribution process begins when the manufacturer ships the drugs and ends when the drugs consumption report is back to the procurement entity (Susarla&Karimi, 2012).A well-coordinated medicines supply system helps to confirm that funds available for the procurement of medicines are used effectively and efficiently. Failures within the supply system can result in life threatening medicines shortages and waste of scarce resources. Problems frequently result when an inefficient public medicine supply system is meant to serve a whole country and/or more efficient private sector supply systems only serve urban populations(factbook on level 1 monitoring indicators 2007)As mentioned WHO 2006,effective distribution management comes from selecting appropriate strategies for delivering, maintaining accountability procedures and secure storage at each level of the system, making reliable transport arrangement, keeping reliable records of drugs stocks and consumption, designing an efficient network for storage facility, allocating supplies supported actual workload and treatment needs. Efficient distribution management includes the supply of an efficient network of storage facilities, keeping reliable records of drug stock balance and consumption, maintaining accountability procedures, ensuring adequate and secured storage, reliable transport systems and reinforcing, reporting and supervisory practices (Matse,2005).An efficient drug distribution system ensures the supply of the proper medicines in sufficient quantities procured at rock bottom prices to secure the most therapeutic value to the most important number of beneficiaries with the supply and extra resources (Mir Javid Iqbal,2017

2.1.3. Evaluation of Pharmaceutical Distribution Effectiveness

Organizational effectiveness is defined as an external standard "of how well a company is meeting the strain of the varied groups and organizations that are concerned with its activities" (Pfeffer and Salancik 1978).Assessing for methods of improving performance of pharmaceutical distribution is incredibly essential for distributor of pharmaceuticals. By evaluating and measuring distribution, performance manufacturers and businesses can see what they achieve, quantify ad qualify their effectiveness, identify opportunities for improvement and compare their performance against competitors.(Lezama 2015).

2.1.4. Distribution Challenges for Pharmaceutical Products

In adequate availability of and access to essential health commodities are major barriers to the delivery of essential health care in developing countries. Health could be a basic right and access to medicine could be a basic tool to confirm health. This right and its tools face major issues within the world the provision and distribution of medicines are a fundamental aspect of the success of any health system. Fundamentally, they ensure access to medicines to local populations. However, they also provide information on the provision and demand of products and transfer money to finance the system. Disruptions to the current supply of medicines undermine health outcomes as supply chains have a bearing on the supply, cost and quality of medicines available to patients. Developing countries face variety of challenges that limit access to medicines. These include: Regulating the standard and flow of medicines into and within the country, Geographic access to medicines, financial access to medicines, Supply chain forecasting and planning, Limited warehousing.(Ariane McCabe 2014).Improving access to affordable and high-quality essential medicines, and ensuring their rational use, are among the most objectives of national medicines policies. However, about 50% of the population in Sub-Saharan Africa lacks regular access to essential medicines, while traditional medicine remains insufficiently integrated into conventional health services. Problems of insufficient access will be attributed to: inadequate human resources, insufficient financing, high medicine prices, inadequate management of public sector procurement and provide management systems and inadequately regulated pharmaceutical markets (who 2017).

The federal of Ethiopia has made several efforts to boost the health of Ethiopian by fixing programs to deliver priority health interventions. Despite these efforts, shortage of foreign currency, displacement in most a part of the country, unavailability of reliable transport system, lack infrastructure are a serious contributing factor to shortage of pharmaceuticals (EPSA 2019 annual report)Many low-income countries are still facing acute shortages of essential medicines thanks to the limited supply of affordable medicines and inadequate logistical systems to deliver them, and a seamless shortage of latest products to fulfill developing country's health needs. As such, efficient medicine logistic and provide management is viewed because the key strategy in reducing costs of medication and ensuring their availability within the healthcare facilities (WHO June, 2004).Distribution of pharmaceuticals to a sanatorium is facing too many problems, which impact effectiveness of distribution performance. one among the foremost challenges of the pharmaceutical sector and health provision system in Ethiopia is that the uncoordinated drug distribution system, which isn't in line with good drug supply management, which the National Drug Policy stipulates(PFSA,2015).

A work shop by WHO (2006) outlines problems in distribution of medicines in Africa were poor communication, information and consumption data. And also inadequate storage facilities and temperature control systems and an absence of quality assurance procedures. Lack of transparent procurement procedures is that the main challenge in Africa to distribute pharmaceuticals in Africa. Additionally Lack of appropriate planning, monitoring and evaluation and inadequate budget allocation.

2.1.5 .Pharmaceutical Supply Chain in Ethiopia

Despite major strides to boost the health of the population within the last one and half decades, Ethiopia's population still faces a high rate of morbidity and mortality and therefore the health status remains relatively poor. The foremost health problems of the country are largely preventable communicable diseases and nutritional disorders. Quite 90% of kid deaths are because of pneumonia, diarrhea, malaria, neonatal problems, malnutrition and HIV/AIDS, and infrequently as a mix of those conditions (HSDP 2014/15).

Road transport is that the dominant transport system in Ethiopia; it connects urban to rural areas and therefore the country to regional ports in neighboring countries. Since the first 1990s, there

has been significant improvements within the restoration and expansion of Ethiopia's road network, the overall road network within the country has increased on the average by about 4.2% every year, by June 2010 the overall classified road network had increased to 36,469 km (excluding community roads)(EPA, 2012)

The pharmaceutical distribution management system of the country had several problems including non-availability, weak transportation, un affordability, poor storage. There are frequent drug shortages publically health facilities. A national survey estimated that only 70% of key essential medicines were available within the public sector (FMoH 2003). Unavailability of medicines within the public sector compels patients to revert to the private sector. Consequently drugs can take up quite half the particular cost of a visit, increasing the possibility of incurring catastrophic health expenditures and therefore the associated risks of falling into poverty (Russell &Abdella 2002; Bogale, et al. 2005; Mcintyre, et al 2005).

To overcome these challenges, the Ethiopian Pharmaceuticals Supply Agency (EPSA) was established in 2007 by Proclamation No. 553/2007. The Agency is remitted to avail affordable and quality pharmaceuticals sustainable to any or all public health facilities and to confirm their rational use. These funds aim to extend resources at facility-level through the sale of medicines with a mark-up, thereby generating additional funds for the procurement of recent drugs and quality improvements. The strategy aims to reinforce affordable and sustainable supply of medicines to the general public, improve overall quality of services provided, and promote sustainability of health services (EPSA, 2014).

In the Ethiopian supply chain, commodities are delivered to facilities employing a combination of mechanisms. Since March 2012, PFSA has directly delivered program commodities to several health facilities—all hospitals and accessible health centers. As an interim approach, the remaining health centers are receiving their products through woredas or zonal health offices (PFSA delivers to them). For RDF products, health facilities are expected to use their own vehicle, or other transportation, to gather their purchased products from higher levels or vendors. Health posts are expected to gather their products from their resupply clinic each month. Ethiopia: National Survey of the Integrated Pharmaceutical Logistics System (2015).

In 2009, the USAID aided DELIVER project introduced an automatic health commodity management system (HCMIS) which will significantly improve health facilities' ability to manage supplies in their stores. The HCMIS could be a locally-developed, user-friendly software package that helps health facilities manage all EDs, in addition as medical and laboratory supplies. The HCMIS automatically receives and issues reports and orders, manages inventory, and produces a range of commodity reports for store managers, pharmacists, and facility heads. Since the program began, the project has implemented the system in 205 selected health facilities throughout Ethiopia as of 2011 (John Snow/DELIVER, 2011).

The dispensing of medicine in Ethiopia is completed through general pharmacies, hospital pharmacies (special, in-patient and out-patient), drug stores and rural drug vendors and are owned by public health facilities, council, private players and Red Cross Society. 90% of the Ethiopian drug market is financed by private sources, like donors, households (or out-of-pocket) and NGOs making patient liable to an depression .Delivering pharmaceuticals to the end-customers means providing finished goods to satisfy and satisfy actual demand. This process, as described by IMS in figure 3, illustrates the steps included within the delivery cycle: pharmaceutical procurement, port clearing, receipt and inspection, internal control, storage, requisition or allocation of suppliers, delivery, dispensing to patients.

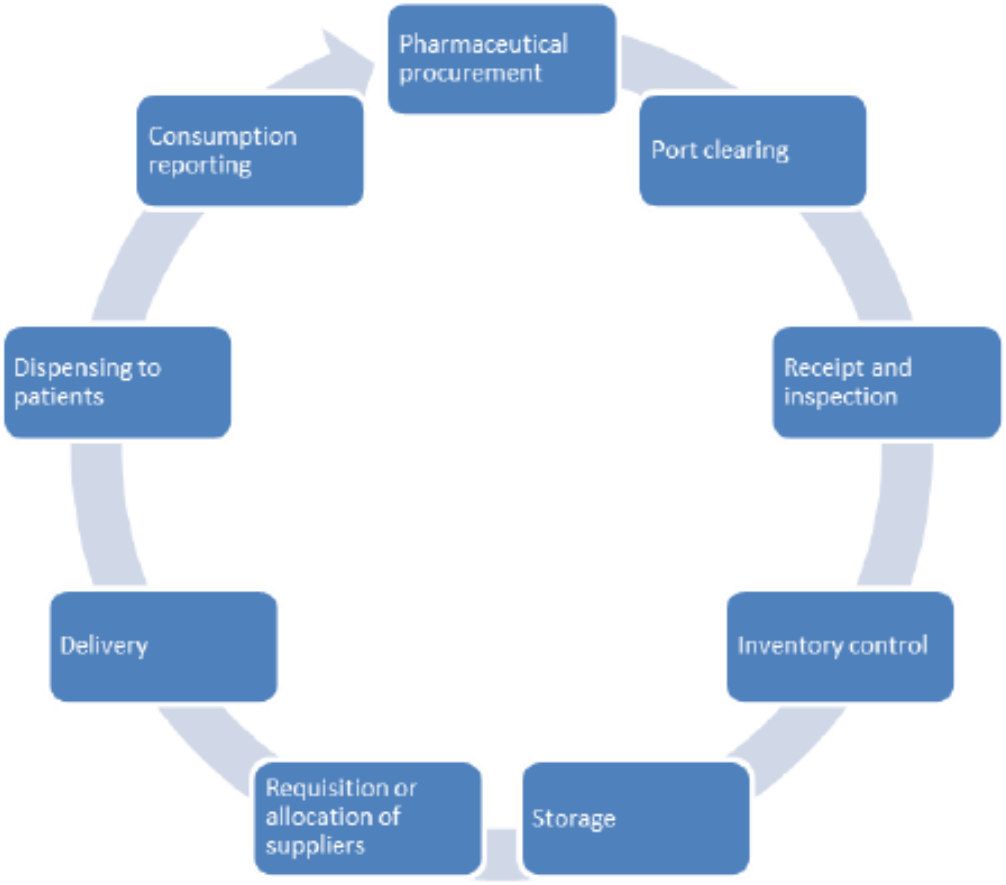


Figure 3. Distribution cycle (IMS, 2014).

It was uphill to get ordering policies and review periods for the private sector like within the private sector as these vary amongst importers, wholesalers, retailers, similarly for the products, e.g. for a retailer pharmacy fast paced products may be ordered each month, medium moving products every two months and slow moving products every 6 months. The inventory review periods also vary looking on the available technology at the stakeholder, may be continuous review with a data system or paper-based each one or two months.

The stakeholders that participate in distributing medicines within Ethiopia are described as follows:

Importers: the importer's role is to buy pharmaceuticals for Ethiopia and receive the deliveries directly from multinationals in other countries. Importers and distributors/wholesalers have to have a license to import medicines; this can be regulated by the FMHACA. Up to 3 importers

can sell one reasonably medicine at a time (one medicine may be registered just for three sellers). Some importers have warehousing capacity and lots of run a vertically integrated wholesale business. When a drug company doesn't have a right away presence within the type of an area office, and infrequently once they do, the multinational typically distributes their products through one distributor that has market exclusivity. this may be the last step where multinationals have visibility of the distribution of their medicines, as they are doing not see how the products are handled and delivered from this stage on. Importers have a really high cost of credit and a slow product and payment cycle, often as long as 10 months within the case of an importer with an integrated wholesale business, between purchase from the manufacturer and payment from the retailer, this process may be often delayed in Ethiopia because of shortage of foreign currency. Most importers order containers of medication at large time intervals to cut back transport costs instead of have smaller, more regular, deliveries; for instance in Ethiopia, importers might just order three or fourfold a year. These containers must be bought on credit with a letter of credit from a bank (costing 2% of the order value) and while having to borrow money at a typical borrowing rate between 18-24% once a year. An importer on the average adds a mark-up of 25%-30% when selling onto a wholesaler. Importers can directly supply the pharmacies, hospitals, etc. and normally have continuous stock revision and ordering periods when stocks are low.

2.1.5.1. Public Sector

Public distribution systems involve the delivery of medication which utilize public or governmental infrastructure. Most low and middle-income countries publicly own and operate central medical stores (CMS) and autonomous supply agencies, which are the foremost common used drug supply systems (Seiter, 2010). In consequence, there's usually a posh combination of institutions that concentrate on funding, manufacturing, importing, wholesaling, retailing, and other auxiliary functions that should cooperate so as for a drug to be available to end-patients, where the logistics for distribution and provide often involve substantial fixed or sunk costs.

Governments and donors commonly only purchase essential generic medicines from the WHO and national essential drug lists (EDLs). Procurement is often done at a national level, with most

of the stock being distributed through centrally located warehouses in capital cities, and with public Sector entities implementing (or overseeing) distribution. Nowadays public distribution is increasingly moving to be outsourced to personal companies, for instance in Ethiopia.

2.1.5.2. Private Sector

The private sector mainly consists of distribution networks that contain some medium to large-scale wholesalers and diverse small private wholesalers, who may be considered as intermediaries (Tetteh, 2009). Traditionally distribution partners in Africa do quite just deliveries as they also handle regulatory affairs, sales division training, marketing, compliance and pharmaco-vigilance for his or her multinational partner (Rosen, Rickwood, 2014).

In the private retail pharmacy market the provision tends to be higher but prices are often also much higher (Cameron et al, 2011). The private pharmaceutical wholesalers are generally better at maintaining stock levels but they lack the acceptable information systems to stay track of their logistics as they mostly use older technologies or utilize paper-based records (Rosen, Rickwood, 2014).

2.1.5.3. Donor Sector

The donor sector comprises international humanitarian organizations that aim to mitigate human suffering through relief operations and medicine distribution. These organizations are non-profit oriented, and report back to three groups: donors (governments, private foundations, individuals and firms) who finance the operations and are the most funding source, beneficiaries representing demand, and also the international community (Rachaniotis et al., 2013).

Humanitarian logistics differ from public and personal pharmaceutical distribution because donors don't seek monetary profit maximization, and since the demand and provide are unknown and dynamic, a balance between equity and efficiency must be met (Van Wassenhove, Pedraza Martinez, 2012).

The key players in humanitarian logistics are: governments, the military, aid agencies, donors, non-governmental organizations (NGOs), and personal logistics service providers. NGOs, in specific, who are significant providers of healthcare services in Africa, include actors starting from influential and international players like CARE (a leading humanitarian organization

fighting global poverty), to small and micro-organizations that develop within local communities (Cozzolino, 2012).

2.1.6. Pharmaceutical Regulatory Framework in Ethiopia.

The "Pharmacy Regulation No. 288/1964" introduced in 1964 was the first official drug regulation established in Ethiopia. In 2010, the "Proclamation No. 661/2009" resulted in the establishment of the Food, Medicine and Health care Administration and Control Authority (FMHACA) under the Ministry of Health with the mandate to protect public health from unsafe, inefficacious and poor quality medicine (MRIS, 2016; Suleman et al., 2016). FMHACA's responsibilities that are relevant to the pharmaceutical import and distribution channel management include regulation of pharmaceutical product registration; approval of purchase orders for import of pharmaceuticals; inspection of pharmaceuticals at port of entry; regulatory inspections for market and quality control and regulation of medicines advertising and promotion (FMHACA, 2014).

2.1.7. Medicine Registration

The 'Guideline for Registration of Medicines' outlines the following conditions that need to be met before importation of pharmaceuticals can take place (FMHACA, 2014). First, medicine registration and issuance of Marketing Authorization that is valid for four years is a precondition for importing any pharmaceutical product. Second, an 'Agency Agreement' between the international manufacturer and a single importer specified as the first agent needs to be entered prior to importation of the product. Whereas a manufacturer can enter an agreement with up to three importers for import and distribution of the product in Ethiopia, only the first agent is responsible for product registration. Unlike the restriction to three importers in Ethiopia, pharmaceutical companies in other countries like India have several distributors per city (OPPI | EY, 2012). The same report argues that having multiple importers brings about increased importing capacity and intense competition among the importers resulting in the ability to provide continuous supply of medicines to the patient thereby minimizing loss of sales and working capital constraints.

2.1.8 Medicine Advertising and Promotion

Although the major challenge in the import and distribution channel is shortage of medicines, product expiry is also a challenge that negatively impacts the import and distribution channel. Oversupplying and receiving products with low RSL are the main reasons for expiry of medicine. However, lack of promotion can also lead to product expiry at the pharmacy level, and dissemination of product information among health care providers has been shown to improve treatment outcome and customer demand leading to increased sales and acceleration of the supply chain (Anum et al., 2010).

2.1.9. Customer Satisfaction Definition

Westbrook and Reilly define- Customer satisfaction is as emotional response to the experience provided by, (or associated with) particular products or services purchased, stores, or perhaps molar patterns of behavior, in addition because the overall marketplace. (1983, 3)

Another author Hunt (1977) defines customer satisfaction as a process of evaluation rendered that the experience was a minimum of pretty much as good because it was alleged to be.

Tse and Wilton (1988) elaborated hunt definition where they said 'customer satisfaction could be a process of consumer's response to the evaluation of the perceived discrepancy between prior expectations and also the actual performance of the merchandise as perceived after its consumption'.

Satisfaction is that the customer's fulfillment response. it's a judgmental that a product or service feature, or the merchandise or service itself, provides an agreeable level of consumption-related fulfillment. (Oliver 1977). 'This definition approaches two sides where the primary approach defines satisfaction as a final situation or as end-state resulting from the consumption experience and also the second approach emphasizes the perceptual, evaluative and psychological process that contributes to satisfaction'. (Evangelos and Yannis 2010, 2)

2.1.10. Importance of Customer Satisfaction

In modern business philosophy business should be customer oriented and also the implementation of the most principles of continuous improvement, justifies the importance of evaluating and analyzing customer satisfaction. In short, customer satisfaction is taken into

account as baseline of standardize and excellence of performance for several business. It also helps to spot the potential market opportunities. (Evangelos and Yannis 2010, 1-2)

Mentioning about importance of customer satisfaction in business perspective Zairi (2000) said in one magazine 'Customers are the aim of what we do and instead of them counting on us, we substantially depend upon them. The customer isn't the source of a controversy, we shouldn't perhaps make a wish that customers 'should go away' because our future and our security are put in jeopardy.' However, the concept of customer satisfaction isn't a brand new one. It hit the business sectors in early 1980's where some researchers considered that customer satisfaction is that the best window into loyalty. They also found that it's direct relationship with company profitability, ROI (return on investment), or share of market. Satisfied customer turn over or several times before switching to alternatives because they become attached emotionally and also afraid to believe on alternatives quality. Oliver (1997)

Zairi (2000) mention more about the importance as- 'numerous studies that have checked out the impact of customer satisfaction repeat purchase, loyalty and retention. all of them bring the similar message. First, satisfied customers share their experience with average five or six people and dissatisfied customers normally tell ten people about their unfortunate experience. Secondly, many shoppers don't complain about dissatisfaction but it's has to realize by the corporate and it differs from industry to industry. Finally, people don't think dealing customer satisfaction isn't as costly on recruit a brand new customer. Actually it's only twenty five percent of the recruit a brand new customer'.

2.1.11. Measuring Customer Satisfaction

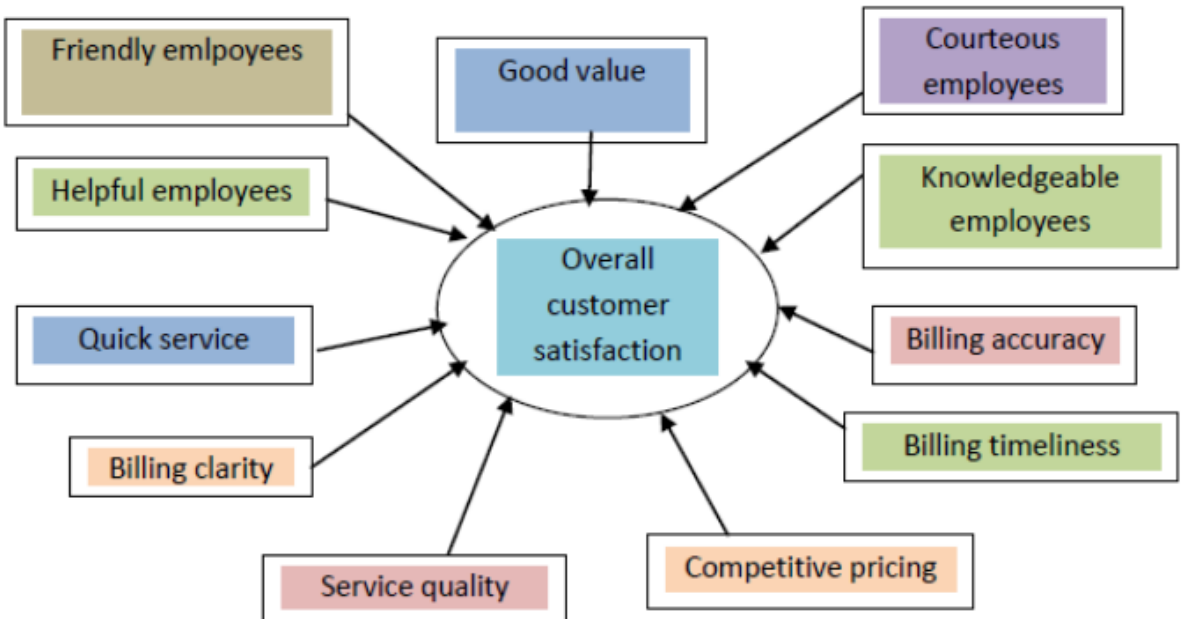
Now a day's measuring customer satisfaction become a crucial issue to most of business concern. during this regard there's a rumored by Lord Kelvin (19th century) 'If you can't measure something, you can't understand it'. In recent decades importance of customer satisfaction has increased thus many organization considered measuring customer satisfaction should be set as a parameter. 'It also considered as reliable feedback and it provides as effective, direct, meaningful and objective way the customers' preferences and expectations'. (Gerson, 1993)

Wild (1980) and Hill (1996) said, customer satisfaction measurement provides a way of accomplishment and accomplishment for all employees involved in any stage of the customer service process and it motivates people to perform in addition as achieve higher levels of productivity.

Evangelos and Yannis (2005, 5) mentioned in their book about main advantages of measuring customer satisfaction, one- measuring customer satisfaction helps to judge business current position against its competition and accordingly design its future plans. Second- Satisfaction measurement is in a position to spot potential market opportunities. Third- it helps to grasp customer behavior and particularly to spot and analyze customer expectations, needs and desire. Fourth- It improve the communication the overall clientele. Fifth- By this measurement it's also possible to look at whether new actions, efforts and programs have any impact on the organizations' clientele. Sixth- Organizations weakness and strength against competition are determined, supported customers' perceptions and judgment. Seventh- Personnel is motivated to extend its productivity.

2.1.12. Determinates of Customer Satisfaction

Customer satisfaction is one amongst the foremost important issues concerning business organizations of every kind. Business organizations try and give best service to the customer and also seek for the explanation which will increase the satisfaction level. in step with Hokinson (1995, 13), these factors include friendly employees, knowledgeable employees, Helpful employees, accuracy of billing, billing timeliness, competitive pricing, service quality, good value, billing clarity and quick service. These determinants are shown in figure 1



However, Zeithaml et al. also expressed some determinates that causes customer satisfaction and that they are mentioned below,

2.1.12.1 Product and Repair Features

Customer satisfaction is significantly influenced by the customer's evaluation of product or service features. Thus, firms also study concerning satisfaction what features and attributes of their services customer measure most which firms measures the perceptions of these features and overall service satisfaction. During this regard, research has found that normally customers make trade-offs among service like, price index versus service quality or friendliness of personnel versus customization. (Zeithaml et al. 2006, 110-111)

2.1.12.2 Consumer Emotions

Consumer emotions played a major role with the merchandise or services satisfaction. When a customer in an exceedingly happy moment of life or positive frame of mind that influenced the service experience and feel good. Alternatively when customers passing through bad mood or negative feelings they may over react or respond negatively towards the service. it's normally seen that positive emotions had a stronger effect than negative one. Specific emotions may be

influenced by the consumption experience itself, influencing consumes' satisfaction with the service. (Zeithaml et al. 2006, 111)

2.1.12.3 Attributions for Service Success or Failure

Attributions are a cause to influence perceptions of satisfaction. Even when customers don't take responsibility for the end result, customer satisfaction could also be influenced by different kinds of attributions. Like sometime customers don't take any consideration of fault made by the personnel, if they found it rarely happens or it's beyond an agent's control. (Zeithaml et al. 2006, 112)

2.1.12.4 Perceptions of Equity and Fairness

Perception of equity and fairness encompasses a great impact on customer satisfaction. Customers usually consider whether or not they treated fairly compare to other customer, was the value eligible for the service, was they get good service. These senses of fairness are central to customer satisfaction, particularly in commission recovery situations. (Zeithaml et al. 2006, 112)

2.1.12.5 Others Consumers, Relations and Colleagues

Customer satisfaction not only depends on the merchandise or service features, one's own experience rather it also influenced by other customer perception, experiences etc. As for instance, family members' satisfaction or dissatisfaction influenced tremendously towards particular service – sort of a vacation trip. Sometimes friends and families other member experience stopped thinking of that service. (Zeithaml et al. 2006, 112)

2.1.13. Customer Loyalty and Retention

Customer loyalty means sticking with a supplier who treats him well and provides him good value within the long run whether or not the supplier doesn't offer the simplest price in an exceedingly particular transaction.

(Lovelock and Wirtz (2007, 486) also mention in their book that customer loyalty is way quite repeat purchases. they may not buy products frequently, but they drive business top-line growth. Loyal customer's recommendation to their friend, family and colleagues indicate that business give the simplest measure of the merchandise or service. Moreover, loyal customer indirectly

increase the amount of latest customer -at no charge to the company- which on the opposite hand, increase company's' growth.

Sivadas and Baker- Prewitt (2000) said, 'the ultimate objective of the customer satisfaction measurement should be customer loyalty. Actually satisfaction fosters loyalty to the extent that's prerequisite for maintaining a favorable relative attitude and for recommending and repurchasing from the supplier'.

'Only customer satisfaction isn't enough in today's business perspective rather there should be extremely satisfied customer, because it results in customer loyalty. Some author also mention that building customer loyalty isn't a choice for business, but it's the sole way of building sustainable competitive advantage. Though there's no definite rule to make customer loyalty but study shown these following aspects might help to make that, firstly- specialize in key customers, secondly- generating high level of customer satisfaction with every interaction proactively, thirdly- understand customer needs and demand, then answer them before the competition does, fourthly- develop closer ties with customers and finally- create a worth perception'. Bonsal and Gupta (2001)

2.1.14. Price Influence on Customer Satisfaction

Price may be a highly regarded tactic for consumer satisfaction. Customer will indicate higher levels of satisfaction once they get a far better deal (pay less price) relative to a comparison apart from they're going to once they pay more for relative worse deal. They thought they paid but the published price for that item if the customer is satisfied.According to Zeithaml et al. (1996, 116-128) the customers' use of price as a symptom to quality depends on several factors, they're accessibility of services cues to quality, brand names that supply evidence of a company's, level of advertising and also the risks related to the service purchase. Usually when the value is high, customer expects higher quality and better services. On the opposite hand, when the value is just too low, customer may doubt about the standard of services. Thus, when company use any price promotion tactic, such as- volume discounts, rebates, preferred customer discount, holiday sales or other countless marketing offers they must be very careful about their product image and the way customer answer their product and services.

2.2. Empirical Review

In this segment gives the empirical literature review of customer satisfaction on importing and distribution pharmaceutical products primarily based on the previous studies, findings and journal articles what they performed.

Pharmaceutical distributions centers have been selected for this study as distribution centers are the central component of the pharmaceutical supply chain and according to Quick et al., (1997) drug distribution is concerned with bringing a medicine from the manufacturer to the patient. Government agencies and third party payers expect the provision of pharmaceutical products to be cost effective, keeping costs to a minimum so strategic planning has become imperative for all organizations in the pharmaceutical distribution system (Birdwell, 1994).

Lorentz et al. (2007) proposes that distribution system evolution in emerging markets influences the supply chain decisions (distribution channel selection and prioritization, middle-man selection, role evaluation and allowing for more direct distribution) of the companies. Limited emphasis on the enforcement of the distribution of medicines could potentially result in increased access to substandard and counterfeit medicines.

According to an article called “Managing Drug Supply” published in “Essential Drugs Monitor” (1998), health services throughout the world are presented with a fairly common set of health problems for which essential drugs have an important role; through the relative frequencies of specific illness vary among countries. In addition to this, if carefully selected, low cost pharmaceuticals are available and appropriately used, there would a huge reduction of mortality caused by illness in developing regions. Even in industrialized countries efficient drug supply management is important to reduce escalating costs of health care and bring effective and affordable health care service globally. In contrast to this, the experience of many countries showed that substantive and sustainable improvement in the supply and use of drugs are possible. Negative experience of the past has shown that success cannot be achieved if there is no clear goals, sound plans, effective implementation and monitoring of performance. John (2015) and his colleagues put pharmaceutical supply as complex and overlapping. “ the pharmaceutical supply chain is complex , and involves multiple organizations that play differing but some- times overlapping roles in drug distribution and contraction price variability across

different types of consumers is a common phenomenon due to the level of complexity".(John *etal*,2015). The above mentioned people put pharmaceutical supply as a difficult task for policy makers. To understand this, assessing all supply chain related issues is mandatory. They also put expressions of inefficient supply chain as follows: product discontinuity, product shortages, poor performance, lowered patient safety, dispensing errors and technological errors causing stock shortages in pharmacies.

Ayad (2011) put inventory as the stock of pharmaceutical products retained to meet future demand. "Inventory represents the largest asset in pharmacy practice, and its value continues to rise because of the growth in variety and cost of pharmaceutical products," (Ayad, 2011). According to Ayad (2011), in pharmacy practice, the role of efficient inventory management from both financial and operational perspective is very huge. Ayads‟ (2011) conclusion is that inventory management is reducing carrying costs, while maintain an effective stock of products to satisfy customer and prescriber demands.

Mezid M. (2014) stated that majority of the common leading causes of morbidity can be substantially reduced if essential drugs (EDs) are made available and appropriately used; where functioning of pharmaceutical logistics system is necessary in Ethiopia. Mezid M. (2014) further stated that tracking changes and improvements of the pharmaceutical logistics performance is important. His target was to study the pharmaceutical logistics system of health centers (HCs) in Addis Ababa giving emphasis to non-program drugs (NPDs). At the end of his research he is able to draw the following conclusions: "there was no major problem common to all HCs regarding drug selection. In adequate supply of NPDs at PFSA (pharmaceutical fund and supply agency) was a major obstacle for the overall logistic system. Transportation of NPDs and infrastructure related to medicine waste management were not adequate, therefore, PFSA should enhance its capacity in all aspects. HC‟s pharmacy, stockholders should construct standard stares and medicine waste disposal sites" (Mezid M, 2014).

Marks (2009) and Yadav*etal*(2011) stated that the world health organization (WHO) defines access to medicine as a priority for citizens. "Medicine needs to be available at all times in

adequate amount, in appropriate dosage and quality and at an affordable price for individuals and communities." (Marks, 2009 and Yadav*etal,* 2011). They have also estimate that two billion people do not have access to medicines and four million lives per year could be saved in Africa and south East Asia with the appropriate treatment and medicine. Based on their estimate, WHO and 192 states committed themselves to reaching eight millennium development goal on the list to reduce the child mortality rate, to improve maternal health and to combat HIV/AIDS, malaria and other disease (WHO,2012).

Mohamed B. Ayalew (2017) and his colleague defined patient/ client satisfaction as the degree of positive feeling that patients/clients experience having used a service. He also puts patient/client satisfaction as the gap between quality of service expectation and the actual experience of the service provided from the patients‟ point of view. According to Mohammed B .Ayalew (2017) and his colleagues "patient satisfaction has become an integral component of the quality of health care services. It is becoming a popular health care service. It is becoming a popular health care quality indicator, in which pharmaceutical services are an essential part as it reflects the reality of service or care provided. It is an established fact that satisfaction influences adherence and seeking for medical attentions" (Mohammed B. Ayalew*etal*, 2017).

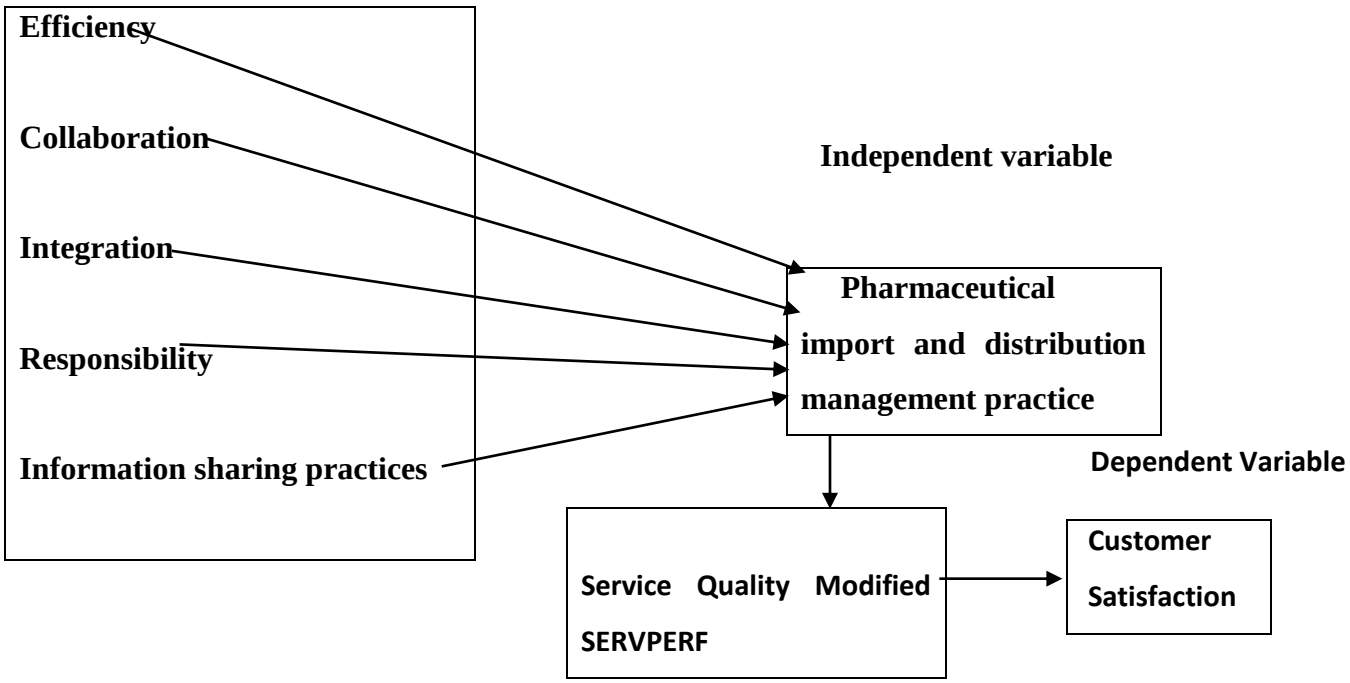
Mohammed B. Ayalew (2017) and his collagens has also done a review to explore the link between treatment satisfaction and adherence, compliance, and persistence and concluded that greater treatment satisfaction was associated with better compliance and improved persistence. According to the above mentioned researchers, assessing patient satisfaction is an approach for identifying and meeting patients‟ needs. Providing better access to quality pharmaceutical service is a way to improve patients‟ satisfaction with health-care service. Low or high level of patient‟s satisfaction and expectation of the pharmacy service might be influenced by a variety of factors. Some of these factors are demographic characteristics of the patient, waiting time, pharmacy setting, medication availability, and service quality. Furthermore, the patient satisfaction level is found to be directly associated with patients expectations.

A study by Gunasekaran et al., (2001), stated that good customer relationship can be achieved through measures such as timely delivery of products, customer response time and order lead time. And a reduction in the order lead time leads to a reduction in the customer response time

hence an efficient supply chain. Awan (2008) concludes that customer satisfaction is mainly influenced by affective states (emotions) and cumulative satisfaction has more vital role in economic success of the companies as compared to the transaction specific satisfaction. The actual question is how to achieve, maintain and improve customer satisfaction? TQM is one such philosophy which can help organizations to achieve, maintain and improve customer satisfaction. According to Agus et al., (2000) TQM implementation strengthens customer satisfaction and improves company's financial performance. From its inception the concept of TQM is focused on customer satisfaction hence it is not surprising that TQM literature has given much emphasis on customer satisfaction (Mehra and Ranganathan, 2008). Because of effect of TQM on customer satisfaction, there is hardly any management philosophy that is as widely adopted by companies as quality management (Fisscher and Nijhof, 2005).

2.3 Conceptual Framework

The following is simple conceptual framework that explains the relationship among the dependent variables as a measure for customer satisfaction with that of the independent variable in pharmaceutical import and distribution. The conceptual model below identifies the link between independent variables on customer satisfaction. The framework proposes that pharmaceutical import and distribution practices will have an impact on customer satisfaction both directly and also indirectly. These factors used to measure customer satisfaction, are adapted from SERVPERF model. SERVPERF is a modification of SERVQUAL model, and thus uses the same categories to assess service quality. It uses an idea of perceived service quality leading to satisfaction. For the retailing contexts where the service is more prominent than the goods SERVPERF is more appropriate (Mattsson J, 1992). SERVQUAL model is one of service quality measurement models which have been extensively applied and been developed by Parasuraman *etal*.(1985,1986,1988,1991,1993,1994; Zeithamal .,1990).



The above stated 5 factors are explained as follows:

1. Tangibles-physical facilities, equipment and appearance of personnel.

2. Reliability-ability to perform the promised service dependably and accurately.

3. Responsiveness-willingness to help customers and provide prompt service.

4. Assurance (including competence, courtesy, credibility and security) – knowledge and courtesy of employees and their ability to inspire trust and confidence.

5. Empathy (including access, communication, understanding the customer) - caring and individualized attention that the firm provides to its customers.

Chapter Three

Research Methods and Design

3.1. Introduction

This chapter is discussed the methodologies that would be used in gathering the data, analyzing the data and reporting the results. The main aim here is at explaining the methods and tools that would be used in collecting and analyzing data to get proper information related to the impact and challenges of import and distributed pharmaceutical products on level of customer satisfaction in Addis Ababa.

3.2. Research Approach

Quantitative Research Methods use techniques that includes of examine relationships between independents and dependent variables and measure the percentages and frequencies of observations (Fowkes and Fulton,1991, Green halgh 1997, Bowling 2002).In this study, both qualitative and quantitative research approach is employed for exploring and understanding the meaning of the cause, impact, and challenges of import and distributed pharmaceutical products on the level of customer satisfaction in Addis Ababa.

3.3. Research Design

The study adopted explanatory research design. According to Darabi(2007), explanatory research has the goal of formulating problems more precisely, clarifying concepts, and gathering explanations, gaining insight, eliminating impractical ideas and forming hypotheses. Literature research, survey, focus group and case studies are usually used to carry out explanatory research. An explanatory research may develop hypotheses, but it does not seek to test them .in addition to this exploratory research focus is on cause-effect relationships, the study can be explanatory explaining which causes produce which effects Our concern in casual analysis is how one variable affects, or is responsible for", changes in another variable and The stricter interpretation of causation is that some external factor produces a change in the dependent variable (Yin, 1994). Also Yin (1994), stated that explanatory research which is grounded in

theory is another research purpose type, and the theory is created to answer why and how questions. We are more interested in understanding, explaining, predicting and controlling relationships between variables than we are in detecting causes. Explanatory studies go beyond discover and attempts to explain the reasons for the phenomenon that the explanatory study only observed. In an explanatory study, the researcher uses theories or hypotheses to represent the forces that caused a certain phenomenon to occur.

The study specifically tried to ascertain the import and distributed pharmaceutical products in Addis Ababa among selected wholesalers and retailer Pharmacies and will sight to show their relationship to customer satisfaction .The study identified the causes, challenges and factors faced in the adaption of import and distributed pharmaceutical products related to customer satisfaction. Exploratory design is considered appropriate for the study since it will help to explore the phenomenon under study in its current state and its characteristics from a larger number of respondents at lower cost within a short period of time.

3.4. Population of the Study

Polit and Hungeler (1999; 37) refer to population as aggregate or totality of objects, subjects or members that conforms to a set of specifications. According to Addis Ababa‟ s city administration, the total population is estimated about 6.6 million out of which about 3.85 million (58.33%) falls under the age category of 18 – 70 years old. Since the aim of this study is to assess import and distributed pharmaceutical products on the level of customer satisfaction in pharmaceutical importers in Addis Ababa. The targeted population comprises adults as well as Ethiopian of all gender, educational status, socio-economic status and residential areas, who requested pharmaceutical service in pharmaceutical importers, wholesalers and retailers that are found in Addis Ababa.

3.5. Sample Design

The units of study are customers (wholesaler, retailer and patients/clients) of pharmaceutical import. The study is conducted a judgmental sampling on (wholesaler and retailer) in thirty-five (35) wholesalers and(37) retailers out of the total number of wholesalers (324)and the total number of retailers pharmacies (372)in Addis Ababa. This selected based on their distribution throughout the ten (10) sub cities of Addis Ababa. These selected pharmaceutical

wholesalers and retailer are models of the whole located in Addis Ababa that fulfills all requirements according to the Ethiopian Guideline and they have enough potential to purchase and distributed of pharmaceutical products. Studying on these selected pharmaceutical wholesalers and retailers can give a full picture about the situation. The other criteria required to select the pharmaceutical wholesalers and retailers the selected wholesalers and retailers found in an area there is high population density. As there is a high population density, it will help to address as much people as possible. Judgmental sampling is used to select the respondents as they are more conversant with these practices and will give accurate and objective information. The sampling frames comprised customer that are selected from thirty- five (35) wholesalers and (37) retailers in Addis Ababa. In addition to this, technical managers, Seals Persons, dispensers and pharmacy managers are asked about Pharmaceutical import and distribution practice to use their response as a secondary supportive. A representative sample of 385 from the population is selected by the use of formula. This is due that the respondents are large and dispersed all over the city as well as their exact number is not known. According to Cochran, (1963) as cited by Israel, (2009), a large population's sample size can be calculated by using the formula.

$$N=\frac{Z^2 X\ PxQ}{e^2}$$

P – Estimated proportions of an attribute.

Q – (1 - p).

Z - 95% confidence interval (1.96).

E – Sampling error (5%).

$$N=\frac{(1.96)^2 x(0.5)x(0.5)}{(0.05)^2}=384.5$$

The estimated sample size is determined to be a total of 385 respondents. Sekaran and Bougie, (2010) cited a sample size larger than 30 and less than 500 are suitable for most researches. Judgmental sampling will be used to select patients, dispensers, pharmacy managers Technical Managers of wholesalers, Seals Persons, purchasers and that are going to participate in the study.

3.6. Sources of Data

Primary source of data were used to fully answer the research questions. Primary data was gathered from wholesalers and retailer pharmacies at Addis Ababa.

Primary data pertaining to pharmaceutical import and distribution on customer satisfaction were collected through a self-administered questionnaire by using research instrument. Close ended questions were used since; it is easier to generate analysis on a larger number of participants and easily understood by the respondent. The questionnaire gives importance to all factors in relation to pharmaceutical import and distribution on customer satisfaction. It was filled by wholesaler of technical managers, sales representatives, retail pharmacy heads and dispenser pharmacies at Addis Ababa. It shows the opinions of the employees in regard to each question

3.7. Data Collection

Primary data that are used in the study. The primary data that are collected by using interviews and questionnaires. Using interview questions the data is collected from pharmaceutical wholesaler technical manager, marketing and sales division head and purchasing division head and retailers pharmacists focused on satisfaction on pharmaceutical import and distribution. The structured questionnaire for wholesaler technical managers supply, distributed and purchasing contained, questions for sales person contained questions on the way of market competition, availability and the way of distribution pharmaceutical products and for retailer pharmacists dispensers contained questions on availability of pharmaceutical products whereas the structured questionnaire for the pharmacy heads contained questions on supply pharmaceutical products, availability and customer satisfaction. Purchasing division head is interviewed to get data regarding suppliers' relations and response in availing pharmaceutical products. Questionnaires are used to collect primary data from wholesalers, retailers and clients/patients. The secondary data is collected by document review from whole sealers and retail pharmacies to measure some of the supply chain variables and other sources for benchmarking and comparison purposes.

Also interview of technical manager and sales and marketing division are conducted to assess the overall practice of pharmaceutical distribution on customer satisfaction. The major factors affecting pharmaceutical product purchasing and availability, the major challenges faced for supply and distribution pharmaceutical products also collected .The purchasing division is interviewed to get data regarding importers selection for pharmaceutical products, delivery performance for pharmaceutical products and factors affecting delay of the delivery of pharmaceutical products and relationship with importers .

Questionnaires also used to assess the customer satisfaction with regard to flexibility, customers' query time and after post transaction customer service.

3.8. Research Area and Setting

Addis Ababa city, the capital city of Ethiopia covers an area of 540 km2 and total population of 3 million. It is administratively sub divided in to 10 sub-cities (city government of Addis Ababa, 2012).The population of Addis Ababa in the year 2017 as per estimated data=6.6million (population of 2017 .com). Addis Ababa has a total number of 372 pharmacies, 1699 drug stores, 324 wholesalers, 133 importers, 11 public hospitals, 37 private and NGO hospitals, and 50 Health Centers, while 25 more Health Centers are under construction (MIRS , EFDA). From all pharmaceutical wholesalers and retail pharmacies thirty- five (35) and (37) are selected to conduct the study, which are distributed throughout the ten sub cities of Addis Ababa city.

3.9. Data Collection Subjects and Participants

Quantitative data is collected by 2 data-collectors, who are junior pharmacists by profession, taken 5 each sub cities and cover the whole Addis Ababa. The data collectors used researcher administered- structured questionnaire, document review and structured observation methods. To explore the facilitators and barriers of pharmaceutical import and distributed system related to customer satisfaction, in depth interview with the each whole sealer technical managers and pharmacy heads of each retail pharmacies were conducted by the student researcher along with a structured questionnaire.

3.10. Reliability Test Result (Internal Consistency)

There are various types of reliability tests; and the common method used by researchers is the Internal consistency reliability test. The most commonly used measure of internal consistency is Cronbach'salpha coefficient (Sekaran and Bougie, 2010).Cronbach's Alpha is of the internal Consistency of the questionnaire. According to Bryman and Bell (2007), reliability analysis is concerned with the internal consistency of the research instrument. As multiple items in all constructs were used, the internal consistency of BSC constructs that affects pharmaceutical import and distribution on customer satisfaction performance were assessed with Cronbach's Alpha and the reliability values for all constructs are confirmed as greater than 0.7, which are considered acceptable (Nunnally, 1978). The following table shows the summary of reliabilities of all constructs and items related to each Constructs.

Table 3.1: Reliability of Constructs

Item-Total Statistics					
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation n**	**Cronbach's Alpha if Item Deleted**
Supply Chain Efficiency	27.6471	72.053	.940	.886	.904
Supply chain collaboration	29.9118	100.992	.875	.777	.944
Wholesalers integration with importers	28.9706	93.787	.904	.840	.917
Wholesalers integration with customers	11.1765	12.938	.692	.589	.855
Supply chain management practices.	13.4706	23.408	.861	.825	.925
Supply Chain Capability	13.3824	26.243	.578	.510	.949
Responsibility	13.4706	25.348	.720	.710	.937
Retail pharmacies integration with Suppliers	27.1569	18.747	.896	.811	.959
Information sharing practices	25.5784	22.424	.914	.858	.941
Retail pharmacies integration with Customers	31.6569	20.861	.942	.892	.916

(Source: researcher's survey)

3.11. Date Analysis and Presentation

The collected data is analyzed by using descriptive and regression analysis. Both the general and specific objectives are analyzed using explanatory design to document the pharmaceutical

import and distributed practice at wholesaler and retile pharmacies and the challenges faced in implementing in import and distributed pharmaceutical products to meet a high level of customer satisfaction. The data is collected through questionnaires and coded and entered into the statistical package for social science (SPSSV-20) for analysis of quantitative data in computer to give all analysis. After the data analyzed and will be transmitted into figures and tables, a conclusion for each question is made to relate the findings and the survey topic together.

3.12. Ethical Considerations

Before commencing data collection, the study will be conducted after obtaining permission from the manager of respective wholesalers and the head of respective retail pharmacies. Participants of the study will be asked for consent before participating in the study. During the consent process, they will be provided with information regarding the purpose of the study, why and how they are selected to be involved in the study, and what will be expected of them and that they can withdraw from the study at any time. Participants will also be assured about confidentiality of the information in the course of the study by not using personal identifiers and analyzing the data in aggregates. If there is a need, personal interview might be conducted. The name of the interviewees, wholesale and retail pharmacy in which they work will not appear in data analysis, and interviewees will be assured that the information they provide will only to be handled by the research team, and that it will not be discussed with the wholesalers and retail pharmacy administrators or other participants of the study.

Chapter Four

Data Presentation and Analysis

4.1. Introduction

As discussed in previous chapter, this study attempted to examine the relationship between pharmaceutical import and distribution on customer satisfaction in wholesalers and retail pharmacists of Addis Ababa city. Therefore, the findings of wholesalers and retail pharmacies are presented and discussed in this chapter. Some of the questionnaire were developed in five scales ranging from five to one; where 5 represents very high,4 high, 3 average, 2 low, and 1 very low. Whereas the other was developed Yes or No and open ended questions in order to assess relationship between pharmaceutical import and distribution on customer satisfaction, correlation and regression analysis were conducted for scale typed questionnaire. A total of 385 questionnaires were distributed to wholesaler and retail pharmacies .out of these questionnaires 270 were collected and among these 115 questionnaires were not valid since they were not returned for different reasons. Therefore the study takes 270questionnaire results for the analysis. Therefore 34each questionnaire was distributed to technical managers, 37 questionnaires were distributed to head pharmacists and sales representatives and dispensers as a supporting data. The collected data were presented and analyzed using SPSS (version 20) statistical software. The study used descriptive statistics Therefore, mean, standard deviation, correlation analysis, specifically Pearson correlation to measure the degree of association between different variables under consideration used. Regression analysis was also used to test the correlation of independent variable on dependent variable.

4.2. Descriptive Statistic

The demographic profile of the sample respondents is presented and analyzed below. The purpose of assessing respondents‟ age, sex, is that, to determine whether the researcher considered heterogeneity of sample units. On the other hand assessing the work experience and education level of the respondents‟ is that, when the respondents are more experienced and educated they have better opportunity to understand the case and give better response than else.

Table 4.1 demographic information

Gender	**Frequency**	**Percent**
Male	128	47.407
Female	142	52.593
Total	270	100
Age	**Frequency**	**Percent**
26-30 years	133	49.26
31-35 years	124	45.92
36- 40 years	12	4.44
Above 40 years	1	0.37
Total	**270**	**100**
Educational Qualification	**Frequency**	**Percent**
College Diploma	32	11.85
First Degree	229	84.82
Second Degree	9	3.33
Total	**270**	**100**
Work Experience	**Frequency**	**Percent**
0-5 years	189	70.00
5-10 years	80	29.63
10-20 years	1	0.37
Total	**270**	**100**

(Source: researcher's survey)

4.2.1 Description analysis of demographic information

From the above tables (table 4.1), gender frequency of the respondents, shows that the numbers of male respondents were 47.407% and that of female respondents were 52.593 %. This is 128 of the respondents were male, while 142 were female by chance .the researcher divided the age of the respondents in to five categories, starting from 20-25 years of age to above 40. Concerning the age distribution

133 (49.26%) pharmacists exist in the age range of 26-30, 124(45.92%) pharmacists in the age range of 31 to 35,12(4.44%) pharmacists in the age range 36-40 and 1(0.37%) above age of 40. the educational level of pharmacists 229(84.2%) of the pharmacist are first degree holders ,32(11.85%)of them have college diploma and 9(3.33%)of theme have second degree. this indicates that most of the respondents have first degree holders . this also helps to get appropriate information to the respondents from research questioners .the frequency distribution of respondents‟ work experience, the largest of respondents 189(70%) have an experience from zero (0) to five (5) years .in the same case 80(29.63%) of the respondents followed by (5) five to ten(10)years' experience .the remaining respondents 1(0.37%) followed by ten (10)to twenty (20) years experience . this implies that most of them have five years and above work experience with in wholesalers and retailers and it is sufficient to judge and give views. This is because when the respondents are more and more experienced within the organization they have better opportunity to know more and more about the organization. Concerning the work experience of how pharmaceutical products purchase, promote, sale, and distribute and dispense at the wholesale and retile pharmacy.

Table 4.2 Data Analysis result for Supply Chain Efficiency collected from Technical Managers

S.N	Items	N	Mean	Std. Dev.
1	Pharmaceutical Products fulfill your need in terms of quality	**34**	2.3529	0.98110
2	The Prices of the Pharmaceutical Products are Reasonable	**34**	2.1471	0..95766
3	The Prices of the Pharmaceutical Products are not volatile	**34**	2.2353	0..98654
4	The Ordering system of Pharmaceutical Products from Importers is convenient for wholesalers	**34**	2.2353	0..88963
5	Customers Can fulfill their orders without any suffering	**34**	2.1471	0..85749
6	Imported pharmaceutical products fulfills your need in terms of quantity	**34**	2.2647	0..86371
7	Pharmaceutical importers fulfill customer needs	**34**	2.235	1.07475
	Group mean		**2.231**	

(Source: researcher's survey)

4.2.2. Description Supply Chain Efficiency

As table 4.2. above represents seven items were used to evaluate the case of supply chain efficiency Accordingly, Pharmaceutical Products fulfill your need in terms of quality, The Prices of the Pharmaceutical Products are Reasonable, The Prices of the Pharmaceutical Products are not volatile, The Ordering system of Pharmaceutical Products from Importers is convenient for wholesalers, Imported pharmaceutical products fulfills your need in terms of quantity and Pharmaceutical importers fulfill customer needs scored mean value **2.3529, 2.1471,2.2353, 2.2353, 2.2647and 2.2353** respectively ,which shows bad level of supply chain efficiency This implies that pharmaceutical wholesalers are bad level to get quality pharmaceutical products , bad level to fulfill their need in terms of quantity and the price of pharmaceutical products are not reasonable and fluctuate day to day .in addition to this the ordering system from importers is not covenant or bad for wholesalers . On the other hand according to the response Customers Can fulfills their orders without any suffering scrod mean value of**2.1471** .this shows that customers not satisfied on pharmaceutical importers and pharmaceutical importers are not efficient to import and distributed pharmaceutical products and they are at bad level to satisfy their customers.

Table 4.3 Data Analysis result for Supply chain collaboration collected from technical managers

S.N	Items	N	Mean	Std. Dev.
8	Pharmaceutical promoters promote their products to pharmacists without any difficulties	**34**	2.1765	0.93649
9	Pharmaceutical promoters promote pharmaceutical products to doctors without any difficulties	**34**	2.2059	0.91385
10	Overall relationship with Pharmaceutical importers is excellent	**34**	2.1471	0.85749
11	Importers deliver pharmaceutical Products on time to Customers	**34**	2.1176	. 0.76929
12	Pharmaceutical Products distributed in the market without any difficulties.	**34**	2.3529	1.06976
13	Pharmaceutical competitors compete in the market based on ethical way.	**34**	2.3529	0.88360
	Group mean		**2.2254**	

(Source: researcher's survey)

4.2.3. Description supply chain collaboration

As table 4.3 above depicts six items were used to evaluate the case of supply chain collaboration regarding to promotion, distribution and competition .according to the item accordingly Pharmaceutical promoters promote their products to pharmacists without any difficulties, Pharmaceutical promoters promote pharmaceutical products to doctors without any difficulties and Pharmaceutical Products distributed in the market without any difficulties scored mean value of **2.1765, 2.2059** and **2.3529** respectively which approximates bad level to promote pharmaceutical products to pharmacists and doctors and to distributed pharmaceutical products in the market is at bad level .on the other hand Overall relationship with Pharmaceutical importers is excellent ,Importers deliver pharmaceutical Products on time to Customers and Pharmaceutical competitors compete in the market based on ethical way. Scored mean value of **2.1471, 2.1176** and **2.3529**respectively this implies that over all relationship wholesalers to importers are at bad level in addition to this importers delivery on time pharmaceutical products to customers are at terrible rank and pharmaceutical competitors compete on the market not based on ethical method.

Table4.4. Data Analysis result for wholesalers integration with importers collected from Technical Managers

S.N.	Items	N	Mean	Std. Dev.
14	The purchase and distributed system from Importers is suitable for Wholesalers	**34**	2.5294	0.99195
15	Wholesalers purchase pharmaceutical products from importers based on equal and legal method	**34**	2.2941	0.83591
16	Pharmaceutical importers has good relationship with wholesalers	**34**	2.4412	0.99060
17	Importers Follow-up wholesalers for feedback	**34**	2.3235	0.91189
18	Importers equally and fairly distributed pharmaceutical products to wholesalers	**34**	2.3235	1.00666
19	The System to Order Pharmaceutical Products from Importers is Clear and eligible.	**34**	2.3824	0.85333
	Group mean		**2.38235**	

(Source: researcher's survey)

4.2.4. Description wholesalers integration with importers

As table 4.4, above depicts, six items were used to evaluate the case of wholesalers integration with pharmaceutical importers or upstream of the wholesalers. Accordingly, the item that The

purchase and distributed system from Importers is suitable for Wholesalers, Wholesalers purchase pharmaceutical products from importers based on equal and legal method ,Pharmaceutical importers has good relationship with wholesalers scored mean value of**2.5294**, **2.2941** and **2.4412**respectivelywhich shows the bad level of integration .according to this response the purchase and distribution system is not suitable to wholesalers and the purchase system from importers is not equal and legal and the relationship of pharmaceutical importers are at bad level with customers (wholesalers). On the other hand Importers Follow-up wholesalers for feedback, Importers equally and fairly distributed pharmaceutical products to wholesalers and The System to Order Pharmaceutical Products from Importers is Clear and eligible. The scored mean value of **2.3235, 2.3235** and**2.3824** respectively this implies that pharmaceutical importers at bad level for follow up of customers feedback, the distribution method to customers are at bad level and the ordering system of pharmaceutical products from importers clarity and eligibility is at bad level to customers. This will leads to the dissatisfaction of their customers and in a long-run there may be a chance of losing their customers. If it is so, it may be difficult and dangerous to these importers to survive and compete in this intensive and competitive market environment.

Table 4.5 Frequency Distribution of Overall Customer Satisfaction Collected from Technical Managers

	Over all How you Satisfied on Pharmaceutical import and Distribution			
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Strongly dissatisfied	6	17.6	17.6	17.6
Dissatisfied	21	61.8	61.8	79.4
Neutral	3	8.8	8.8	88.2
satisfied	4	11.8	11.8	100.0
Total	34	100.0	100.0	

(Source: researcher's survey)

4.2.5 Description of Overall Customer Satisfaction on supply chain efficiency, supply chain collaboration and integration with importers.

As table 4.5 above depicts overall customer satisfaction on pharmaceutical import and distribution responded by technical managers of wholesalers 6(17.63 %) Strongly dissatisfied, 21(61.8%) dissatisfied,3(8.8%), neutral and4(11.8%) satisfied respectively .this implies that only 4(11.8%) customers is satisfied on pharmaceutical import and distribution . According to technical managers responded most of customers dissatisfied on pharmaceutical import and distribution regarding to supply chain efficiency, supply chain collaboration and integration with importers.

Table4.6. Data analysis for wholesalers integration with Customers collected from sales representatives

Practices	**No. of responses (n)**	**Frequency [Yes] N (%)**
Do you Sale Pharmaceutical Products based on Customer need?	**97**	**17(17.5)**
Is there Customer compliance when you sale and distributed pharmaceutical products	**97**	**72(74.2)**
Do you think pharmaceutical importers works to satisfy their customers	**97**	**10(10.3)**
Do you do anything to satisfying your customers?	**97**	**22(22.7)**

(Source: researcher's survey)

4.2 .6.Data Analysis Result of wholesalers integration with customers

All (**n=97**) selected pharmaceutical wholesalers were included in this study. The sales representatives worked for zero to five years or more in pharmaceutical wholesalers. Accordingly their response is Do you Sale Pharmaceutical Products based on Customer need **17(17.5%),**Is there Customer compliance when you sale and distributed pharmaceutical products **72(74.2%),** Do you think pharmaceutical importers works to satisfy their customers **10(10.3%),** Do you do anything to satisfying your customers **22(22.7%)** respectively .this implies that Pharmaceutical Products not sale based on Customer need, Is there is Customer compliance when pharmaceutical products sale and distributed in the market ,pharmaceutical importers not work to satisfy their customers and they don't involve to satisfy their customers. This shows that the integration of wholesalers for customer satisfaction is at bad level.

This will leads to there is no customer satisfaction at pharmaceutical wholesalers if this continue at this level it may be difficult for customers to get pharmaceutical product based on customers needs. This goes to difficult to get right pharmaceutical product for right disease and patients may be develop drug resistance in addition to these in a long-run there may be a chance of losing their customers. If it is so, it may be difficult and dangerous to these wholesalers to survive and compete in this intensive and competitive market environment.

Table 4.7 Data analysis for Supply Chain Management Practice collected from sales representatives

Practices	No. of responses (n)	Frequency [Yes] N (%)
Are you Satisfied by your Technical Manager when he/she order pharmaceutical products?	**97**	**28(28.9)**
Is there clear management system in your organization?	**97**	**27(27.8)**
Do you participate in product selection and ordering process from importers	**97**	**30(30.9)**
When you sale and distributed pharmaceutical products to customers based on ethical and healthy way	**97**	**25(25.8)**
Is there any un ethical order , sale and distribution system perform in your organization ?	**97**	**57(58.8)**
Is there any mechanism doing by your organization to compete in the market?	**97**	**73(75.3)**
Do you agree all pharmaceutical products sale and distributed in the market in Ethical way?	**97**	**17(17.5)**
Is there any product selection criteria When you receive order, sale and distributed pharmaceutical products	**97**	**16(16.5)**

(Source: researcher's survey)

4.2.7 Data analysis for questioner related to supply chain management practices.

All (**n=97**) selected pharmaceutical wholesalers were included in this study. The sales representatives worked for zero to five years or more in pharmaceutical wholesalers. Accordingly their response is are you Satisfied by your Technical Manager when he/she order pharmaceutical products **28(28.9%),**Is there clear management system in your organization **27(27.8%),**do you participate in product selection and ordering process from importers **30(30.9%),**When you sale and distributed pharmaceutical products to customers based on ethical and healthy way**25(25.8%),**Is there any un ethical order , sale and distribution system perform in your organization**57(58.8%),**Is there any mechanism doing by your organization to compete in the market**73(75.3%),**do you agree all pharmaceutical products sale and distributed in the market in Ethical way**17(17.5%),**Is there any product selection criteria when you receive order, sale and distributed pharmaceutical products**16(16.5%)**respectively. Information obtained through questionnaire, the supply chain management of distribution, selection ordering process and over all the management system is at bad level .in addition to this all pharmaceutical products sale and distributed in the market ethical way and product selection criteria during receive order, sale and distributed pharmaceutical products is at bad level. This emphasize that there is an ethical distribution is dominate on the market and when to receive order and distributed pharmaceutical products with un clear selection criteria .This will leads to the overall pharmaceutical import and distribution management practice is poor in pharmaceutical sector and in a long-run there may be a chance of losing competent and legal pharmaceutical importers on the market due to dominate by un ethical pharmaceutical importers.

Table 4.8 Frequency Distribution of Overall Customer Satisfaction collected from sales representatives

	Over all How you Satisfied on Pharmaceutical import and Distribution			
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Strongly dissatisfied	7	7.2	7.2	7.2
Dissatisfied	69	71.1	71.1	78.4
satisfied	21	21.6	21.6	100.0
Total	97	100.0	100.0	

(Source: researcher's survey)

4.2.8 Description of Overall Customer Satisfaction on integration with customers and supply chain management.

As table 4.8 above depicts overall customer satisfaction on pharmaceutical import and distribution responded by sales representatives 7(7.2%)Strongly dissatisfied, 69(71.1) dissatisfied, and 21(21.6%) satisfied. this shows that customers on pharmaceutical import regarding to integration with customers and supply chain management 69(71.1%) is dissatisfied.

Table 4. 9 Data analysis for Supply Chain Capabilities collected from retail pharmacies heads

Practices	**No. of responses (n)**	**Frequency [Yes] N (%)**
Is there any documented policy or guiding for drug selection	**37**	10(27)
Does the Head Pharmacist do the Selection, Quantification, Procurement	**37**	26(70.3)
Do you use cost of the drugs or preference of well-known drugs as the criteria for drug selection in the Pharmacy	**37**	7(18.9)
Are wholesalers your major customers to purchase drugs	**37**	26(70.3)
Is there any document policy or guideline for procurement of drugs	**37**	11(29.7)
Is there any document policy or guideline for drug forecasting?	**37**	10(27.0)
Is the procurement limited to the essential drugs list?	**37**	12(32.4)
Is procurement made by generic name?	**37**	12(32.4)

Do you often purchase drugs from private supplies?	**37**	28(75.7)
Are there high price fluctuation of some drugs through short period of time?	**37**	25(67.6)
Is there a deficiency in selection, quantification and storage of pharmaceutical products in your pharmacy?	**37**	25(67.6)

(Source: researcher's survey)

4.2.9. Data Analysis Result of supply chain capability collected from Pharmacy Heads

All (n=37) selected retail pharmacies were included in this study. The pharmacy heads worked for 5 years or more in pharmacy. Accordingly their response is there any documented policy or guiding for drug selection**10(27%),**Does the Head Pharmacist do the Selection, Quantification, Procurement,**26(70.3%),**Do you use cost of the drugs or preference of well-known drugs as the criteria for drug selection in the Pharmacy,**7(18.9%),**Are wholesalers your major customers to purchase drugs,**26(70.3%),**Is there any document policy or guideline for procurement of drugs**11(29.7%**),Is there any document policy or guideline for drug forecasting,**10(27.0%),**Is the procurement limited to the essential drugs list,**12(32.4%),**Is procurement made by generic name,**12(32.4%),**Do you often purchase drugs from private supplies,**28(75.7%),**Are there high price fluctuation of some drugs through short period of time ,**25(67.6%),**Is there a deficiency in selection, quantification and storage of pharmaceutical products in your pharmacy,**25(67.6%)** respectively .this emphasize that most of them there is no documented drug policy for drug selection, the drug Selection, Quantification, Procurement takes place only by hade pharmacists ,the cost of the drug is not used us a drug selection criteria ,most of retail pharmacy customers is

wholesalers, there is no drug policy or guide line for procurement and forecasting of drugs ,no procurement limited to essential drugs list ,procurement not made by generic name ,most of retail suppliers is private companies and there is high price fluctuation through short pried of time .

This will leads to there is no customer satisfaction on supply chain capability at retail pharmacies on pharmaceutical products if this continue at this level it may be difficult for the patients to get prescribed pharmaceutical products at the right time ,quantity , quality and affordable price .This goes to patients un able to cure .

Table 4.10. Data Analysis for Responsibility collected from retail pharmacy heads

Practices	**No. of responses (n)**	**Frequency [Yes] N (%)**
Do you encounter poor quality product?	**37**	10(27)
Do you encounter expiration of drugs?	**37**	26(70.3)
Do you face irrational prescribing?	**37**	24(64.9)
Do you check the stock level of essential drugs?	**37**	12(32.4)
Do you think Pharmaceutical Promoters promote their brands without any difficulties in your organization?	**37**	11(29.7)

(Source: researcher's survey)

4.2.10. Data Analysis Result responsibility from Pharmacy Heads

All (n=37) selected retail pharmacies were included in this study. The pharmacy heads worked for 5 years or more in pharmacy .Accordingly their response, Do you encounter poor quality product,**10(27%)**Do you encounter expiration of drugs,**26(70.3%)**Do you face irrational prescribing,**24(64.9%)**Do you check the stock level of essential drugs,**12 (32.4%)**Do you think Pharmaceutical Promoters promote their brands without any difficulties in your organization,**11(29.7%).**

This show that most of in retail pharmacy there is no encounter poor quality of drug ,there is encounter expiration of drugs ,there is irrational prescribing ,there is no check the stock level of essential drug and it is difficult pharmaceutical to promote pharmaceutical products at retail pharmacy .it leads the level of responsibility at retail pharmacy for Customers is poor.

Table 4.11. Frequency Distribution of Overall Customer Satisfaction for retail pharmacy heads

	Over all How you Satisfied on Pharmaceutical import and Distribution			
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Strongly dissatisfied	2	5.4	5.4	5.4
Dissatisfied	29	78.4	78.4	83.8
satisfied	6	16.2	16.2	100.0
Total	37	100.0	100.0	

(Source: researcher's survey)

4.2.11 Description of Overall Customer Satisfaction on capability of supply chain and responsibility

As table 4.11 above depicts overall customer satisfaction on pharmaceutical import and distribution responded by retail pharmacy heads 2(5.4%) Strongly dissatisfied, 29(78.4%)

Dissatisfied and 6(16.2%) satisfied .according to the respondent 29(78.4%) dissatisfied regarding to capability of supply chain and responsibility on pharmaceutical import and distribution.

Table 4.12. Data analysis for Retail pharmacy integration with Suppliers collected from dispensary pharmacies

S.N.	Items	N	Mean	Std. Dev.
1	The level of strategic partnership with Suppliers	**102**	2.1667	0.37452
2	The establishment of quick ordering system	**102**	2.1667	.37452
3	Stable procurement through network	**102**	2.1667	0.37452
4	The community pharmacy seeks long-term stable relationships with suppliers	**102**	2.1471	0.38272
5	The pharmacy heads solve problems jointly with their suppliers	**102**	2.1078	0.50555
6	Helped suppliers to improve their product quality	**102**	2.1863	0.39125
7	Included our key suppliers in Retail Pharmacies planning and goal setting activities	**102**	2.0980	0.49771
	Group mean		**2.148**	

(Source: researcher's survey

4.2.12. Data analysis for dispensary pharmacies regarding to retail pharmacy integrate with suppliers.

As illustrate in table 4.12, there are seven items used to determine the extent of integration of the retail pharmacies with their suppliers. Accordingly, the level of strategic partnership with Suppliers, The establishment of quick ordering system, Stable procurement through network, The community pharmacy seeks long-term stable relationships with suppliers, The pharmacy heads solve problems jointly with their suppliers, Helped suppliers to improve their product quality and Included our key suppliers in Retail Pharmacies planning and goal setting activities scored mean value of**2.1667, 2.1667, 2.1667, 2.1471, 2.1078, 2.1863** and **2.0980** respectively . according to the respondents of dispensary pharmacists is level of strategic partnership with Suppliers is poor ,The establishment of quick ordering system is poor ,Stable procurement through network is poor The community pharmacy seeks long-term stable relationships with suppliers is poor ,The pharmacy heads solve problems jointly with their suppliers is poor ,Helped suppliers to improve their product quality

Is poor and Included our key suppliers in Retail Pharmacies planning and goal setting activities is poor .this indicates that the integrating of retail pharmacies with suppliers is at bad level. It leads to difficult for quick response to requirements, accurate delivery, product accessibility, risk sharing, complains handling etc.

Table 4. 13. Data analysis for Retail pharmacies integration with Customers collected from dispensary pharmacies

S.N.	Items	N	Mean	Std. Dev.
8	Follow-up customers for feedback.	**102**	2.0980	0.49771
9	Monitoring and measuring customer service level	**102**	2.0686	0.49272
10	The level of market information sharing with major customers.	**102**	2.1667	0.40008
11	Customer feedback is used to improve Customer relations, processes, products and services	**102**	2.0980	0.49771
12	The organization has systematic processes for handling customer complaints	**102**	2.1078	0.50555
	Group mean		**2.1078**	

(Source: researcher's survey)

4.2.13 Data analysis for dispensary pharmacies regarding to retail pharmacy integration with Customers.

As illustrate in table 4.13 there are five items used to determine the extent of integration of the retail pharmacies with their suppliers. Accordingly, Follow-up customers for feedback, Monitoring and measuring customer service level, The level of market information sharing with major customers, Customer feedback is used to improve Customer relations, processes, products and services and The organization has systematic processes for handling customer complaints scrod mean value is **2.0980, 2.0686,2.1667, 2.0980** and **2.1078**respectively . According to dispensary pharmacies respondents Follow-up customers for feedback is low, Monitoring and measuring customer service level is low, the level of market information sharing with major customers is low , Customer feedback is used to improve Customer relations, processes, products and services is low and The organization has systematic processes for handling customer complaints is medium .This shows that follow up for customer feedback is low, monitoring and measuring customer services level is low, the level of market information sharing is low ,Customer feedback is used to improve Customer relations, processes, products and services is low and The organization has systematic processes for handling customer complaints is low .By the studies done, retail pharmacies has been doing a lot of improvement on the drug dispensing structure as well as gave a solutions on the problems raised by customer in the dispensary area of the retail pharmacies.

Table 4.14. Data Analysis for Information Sharing Practices collected from retail Pharmacies

S.N.	Items	N	Mean	Std. Dev.
13	Sales forecast information sharing with Customers	**102**	2.1176	.51308
14	Sales forecast information sharing with suppliers	**102**	2.1176	.51308
15	Adequacy and quality of information sharing throughout the supply chain	**102**	2.1078	.50555
16	Medical representatives promote their brands freely and ethical way in your organization	**102**	2.1863	.41579
17	The head pharmacist order pharmaceutical products based on customer need	**102**	2.2059	.40634
18	The doctors prescribe pharmaceutical products by brands.	**102**	3.7255	0.67716
19	Overall efforts of Inter-organizational information coordination and sharing	**102**	2.1569	0.41614
	Group mean		**2.3739**	

(Source: researcher's survey)

4.2.14. Data analysis for dispensary pharmacies regarding to Information sharing practices.

As illustrate in table 4.14, there are seven items used to determine the extent of integration of the retail pharmacies with their suppliers. Accordingly Sales forecast information sharing with Customers, Sales forecast information sharing with suppliers, Adequacy and quality of information sharing throughout the supply chain, Medical representatives promote their brands freely and ethical way in your organization, The head pharmacist order pharmaceutical products based on customer need, The doctors prescribe pharmaceutical products by brands and information coordination and sharing the scored mean value **2.1176,2.1176,2.1078,2.1863,2.2059,3.7255** and **2.1569** respectively . According to the respondents show that, Sales forecast information sharing with Customers is, Sales forecast information sharing with suppliers, Adequacy and quality of information sharing throughout the supply chain ,Medical representatives promote their brands freely and ethical way in your organization , The head pharmacist order pharmaceutical products based on customer need and overall efforts of Inter-organizational information coordination and sharing Is at low level and The doctors prescribe pharmaceutical products by brands at high level this leads to the satisfaction level of customers is poor and customers suffer by finding prescribing brands.

Table 4.15 Descriptive Frequency overall Customer Satisfaction for dispensary pharmacies

	Over all How you Satisfied on Pharmaceutical import and Distribution			
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Strongly dissatisfied	11	10.8	10.8	10.8
Dissatisfied	74	72.5	72.5	83.3
satisfied	17	16.7	16.7	100.0
Total	102	100.0	100.0	

(Source: researcher's survey)

4.2.15. Description of Overall Customer Satisfaction on retail pharmacy integration with suppliers, customers and information sharing practice

As illustrate in table 4.15 shows that 11(10.8%) Strongly dissatisfied, 74(72.5%) dissatisfied and 17(16.7) dissatisfied. According to the respondents only 17(16.7%) is satisfied regarding to retail pharmacy integration with suppliers, customers and information sharing practice on pharmaceutical import and distribution at Addis Ababa.

4.3 Regression analysis for supply chain efficiency, Supply chain collaboration, wholesalers integration with importers and customer satisfaction.

4.3.1 Correlation Analysis

Correlation refers to synonym for association or the relationship between variables and it measures the degree to which two sets of data are related. As we can see from Table 4.15 Higher correlation value indicates stronger relationship between both sets of data. When the correlation is 1 or -1, a perfectly linear positive or negative relationship exists; when the correlation is 0, there is no relationship between the two sets of data (Vignaswaran, 2005).

Correlation Value of Coefficient

Value of coefficient	Relation between variables
0.70-0.90	Very strong association
0.50-0.69	Substantial association
0.30-0.49	Moderate association
0.10- 0.29	Low association
0.01-0.09	Negligible association

Source: Alwadael (2010)

Table 4.16.Correlation Analysis between Supply Chain Efficiency ,Supply chain collaboration and Wholesalers integration with importers and customer satisfaction

Correlations

		Over all How you Satisfied on Pharmaceutical import and Distribution	Supply Chain Efficiency	Supply chain collaboration	Wholesalers integration with importers
Pearson Correlation	Over all How you Satisfied on Pharmaceutical import and Distribution	1.000	.074	.158	.066
	Supply Chain Efficiency	.074	1.000	.880	.915
	Supply chain collaboration	.158	.880	1.000	.827
	Wholesalers integration with importers	.066	.915	.827	1.000
Sig. (1-tailed)	Over all How you Satisfied on Pharmaceutical import and Distribution	.	.339	.186	.356
	Supply Chain Efficiency	.339	.	.000	.000
	Supply chain collaboration	.186	.000	.	.000
	Wholesalers integration with importers	.356	.000	.000	.
N	Over all How you Satisfied on Pharmaceutical import and Distribution	34	34	34	34
	Supply Chain Efficiency	34	34	34	34
	Supply chain collaboration	34	34	34	34
	Wholesalers integration with importers	34	34	34	34

(Source: researcher's survey)

As shown in the objective and conceptual framework of this study, to test the relationship between pharmaceutical import and distribution with customer satisfaction, the following correlation analysis is performed. As we can see it on table 4.16.Supply Chain Efficiency and customer satisfaction(r=0.074) is negligible association, Supply chain collaboration and customer satisfaction (r=0.158) is low association, Wholesalers integration with importers and customer satisfaction (r=0.066)is negligible association .this shows that the Supply Chain Efficiency, Supply chain collaboration and Wholesalers integration with importers with customer satisfaction have negligible and low association on pharmaceutical import and distribution .

Table 4.17 Model Summary analysis between Supply Chain Efficiency, Supply chain Collaboration and Wholesalers integration with importers and Customer Satisfaction

Model Summary				
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
.211a	.045	-.051	.87909	1.882

(Source: researcher's survey)

a. Predictors: (Constant), Wholesalers integration with importers, Supply chain collaboration, Supply Chain Efficiency

b. Dependent Variable: Over all How you Satisfied on Pharmaceutical import and Distribution

4.3.2 Model Summary Analysis

To assess the extent of impact of Wholesalers integration with importers, Supply chain collaboration and Supply Chain Efficiency on customer satisfaction, simple regression analysis was carried out. The result of the regression model shown in Table 4.17. Indicates the value of the regression coefficient (**R= .211, R-square =. 045 and adjusted R- square = -.051** for customer satisfaction indicates that , the aggregated effect of Wholesalers integration with importers, Supply chain collaboration and Supply Chain Efficiency on customer

satisfaction is explained by the value of the R square, which indicates that **4.5 %** of Wholesalers integration with importers, Supply chain collaboration and Supply Chain Efficiency on pharmaceutical import and distribution .this indicates that Wholesalers integration with importers, Supply chain collaboration and Supply Chain Efficiency is highly accounted for customer Satisfaction . It also means that only 4.5% of the change in customer satisfaction is explained by Wholesalers integration with importers, Supply chain collaboration and Supply Chain Efficiency on pharmaceutical import and distribution in Addis Ababa.

Table 4. 18. Regression analysis between Supply Chain Efficiency, Supply chain collaboration Wholesalers integration with importers and customer satisfaction

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	1.760	.540	-233	3.262	.003
Supply Chain Efficiency	-.035	.080		-.441	.662
Supply chain collaboration	.084	.075	.419	1.107	.277
Wholesalers integration with importers	-.013	.083	-.067	-.150	.881

(Source: researcher's survey)

a. Dependent Variable: Over all How you Satisfied on Pharmaceutical import and Distribution

4.3.3. Regression analysis of Coefficients

dependent variable	independent variables	B coefficients	constant (a)
Y= Customer satisfaction	X1= Supply Chain Efficiency	b1= -0.35	a = 1.760
	X2= Supply chain collaboration	b2= 0.84	
	X3 =Wholesalers integration with importers	b3 -0.13	

The coefficients and the constant is calculated Using spss version 20 in this situation the results are interpreted as shown below:

Multiple regression equation assumes the form $Y = a + b1X1 + b2X2 + b3X3$ where $X1$,X2, and $X3$ are three independent variables(Supply Chain Efficiency, Supply chain collaboration and Wholesalers integration with importers) respectively can affect Y being the dependent variable(customer satisfaction), and the constants a, $b1$,b2,and b3 can be solved by the following three normal equations:

$Y = a + b1X1 + b2X2 + b3X3$

Customer satisfaction= 1.760+-0.35 X1 +0.84X2+-0.13 X3

From the above regression equation each unit change in X produces a change of b in Y +ve for direct and –ve for inverse relationship. According to this Supply Chain Efficiency have inverse relationship with customer satisfaction ,Supply chain collaboration have direct relationship with customer satisfaction and Wholesalers integration with importers have inverse relationship with customer satisfaction and the rate of change from the above relationship amongst variables

Supply Chain Efficiency-3.5%, Supply chain collaboration 8.4% and Wholesalers integration with importers-13% so pharmaceutical import and distribution sector should make more emphasis to improve on wholesalers integration with importers, Supply chain collaboration and Supply Chain Efficiency.

4.4. Regression Analysis for wholesalers integration with customers and supply chain management practices with customer satisfaction

4.4.1 Correlation analysis

The relationship between pharmaceutical import and distribution with customer satisfaction, the following correlation analysis is performed. As we can see it on table 4.19. Integration with customer (r=0.039) is negligible association with customer satisfaction and supply chain management practice (-0.038) negligible association with customer satisfaction

4.19. Correlation analysis between Wholesalers integration with customers, supply chain management practices and customer satisfaction. Correlations

		Over all how you Satisfied on Pharmaceutical import and distribution	Wholesalers integration with customers	Questioner related to supply chain management practices.
Pearson Correlation	Over all how you Satisfied on Pharmaceutical import and distribution	1.000	.039	-.038
	Wholesalers integration with customers	.039	1.000	.462
	Questioner related to supply chain management practices.	-.038	.462	1.000
Sig. (1-tailed)	Over all how you Satisfied on Pharmaceutical import and distribution	.	.353	.355
	Wholesalers integration with customers	.353	.	.000
	Questioner related to supply chain management practices.	.355	.000	.
N	Over all how you Satisfied on Pharmaceutical import and distribution	97	97	97
	Wholesalers integration with customers	97	97	97
	Questioner related to supply chain management practices.	97	97	97

(Source: researcher's survey)

Table 4.20. Model Summary analysis between Wholesalers integration with customers, supply chain management practices and customer satisfaction

Model Summary				
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
.074[a]	.005	-.016	.91058	1.484

(Source: researcher's survey)

a. Predictors: (Constant), Questioner related to supply chain management practices., Wholesalers integration with customers

b. Dependent Variable: Over all how you Satisfied on Pharmaceutical import and distribution

4.4.2 Model Summary Analysis

To assess the extent of impact of supply chain management practices and Wholesalers integration with customers on customer satisfaction, simple regression analysis was carried out. The result of the regression model shown in Table 4.20.Indicates the value of the regression coefficient (**R= 0.074, R-square =. 005 and adjusted R- square = -.016**for customer satisfaction indicates that the aggregated effect of supply chain management practices and Wholesalers integration with customers on customer satisfaction is explained by the value of the R square, which indicates that **0.5 %** of supply chain management practices and wholesalers integration with customers this indicates that supply chain management practices and Wholesalers integration with customers is highly accounted for customer Satisfaction . It also means that only **0.5%** of the change in customer satisfaction is explained by supply chain management practices and Wholesalers integration with customers on pharmaceutical import and distribution in Addis Ababa.

Table 4.21. Regression analysis between Wholesalers integration with customers, chain management practices and customer satisfaction

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	2.183	.823		2.653	.009
Wholesalers integration with customers	.082	.132	.072	.618	.538
Questioner related to supply chain management practices.	-.028	.046	-.071	-.614	.540

(Source: researcher's survey)

a. Dependent Variable: Over all how you Satisfied on Pharmaceutical import and distribution

dependent variable	independent variables	B coefficients	constant (a)
Y= Customer satisfaction	X1= Wholesalers integration with customers	b1= .082	a = 2.183
	X2= Questioner related to supply chain management practices	b2= -.028	

4.4.3 Regression Analysis of Coefficients

The coefficients and the constant is calculated Using spss version 20 in this situation the results are interpreted as shown below:

Multiple regression equation assumes the form $Y = a + b1X1 + b2X2$ where $X1$, and X2, are two independent variables (Wholesalers integration with customers and Questioner related to supply chain management practices) can affect Y being the dependent variable(customer satisfaction), and the constants a, $b1$, and b2, can be solved by the following equations:

$Y = a + b1X1 + b2X2$ Customer satisfaction= 2.183 + .082X1 + -.028 X2

From the above regression equation each unit change in X produces a change of b in Y +ve for direct and –ve for inverse relationship. As we can see the above table 4.21 wholesalers integration with customers they have direct relationship with customer satisfaction and Questioner related to supply chain management practices have inverse relationship with customer satisfaction .the rate of change from the above relationship amongst variables Wholesalers integration with customers 8.2%and Questioner related to supply chain management

practices-2.8% so pharmaceutical import and distribution sector should make more emphasis to improve on Wholesalers integration with customers and on supply chain management practices.

4.5 Regression Analysis for Supply Chain Capability and responsibility with customer satisfaction.

Table 4.22 correlation analysis between Supply Chain Capability, Responsibility and customer satisfaction

Correlations

		Over all how you satisfied on pharmaceutical import and distribution	Supply Chain Capability	Responsibility
Pearson Correlation	Over all how you satisfied on pharmaceutical import and distribution	1.000	-.105	-.148
	Supply Chain Capability	-.105	1.000	.108
	Responsibility	-.148	.108	1.000
Sig. (1-tailed)	Over all how you satisfied on pharmaceutical import and distribution	.	.268	.190
	Supply Chain Capability	.268	.	.263
	Responsibility	.190	.263	.
N	Over all how you satisfied on pharmaceutical import and distribution	37	37	37
	Supply Chain Capability	37	37	37
	Responsibility	37	37	37

(Source: researcher's survey)

4.5.1 Correlation Analysis

As shown in the objective and conceptual framework of this study, to test the relationship between pharmaceutical import and distribution with customer satisfaction, the following correlation analysis is performed. As we can see it on table 4.22.Supply Chain Capability(**r=-.105**) , responsibility(**r=-.148**) this shows that both have negligible association.

Table 4.23 Model Summary analysis between Supply Chain Capability, Responsibility and Customer satisfaction.

Model Summary				
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
.173[a]	.030	-.027	.81526	1.893

(Source: researcher's survey)

a. Predictors: (Constant), Responsibility , Supply Chain Capability

b. Dependent Variable: Over all how you satisfied on pharmaceutical import and distribution.

4.5.2 Model Summary Analysis

To assess the extent of impact of Supply Chain Capability and Responsibility on customer satisfaction, simple regression analysis was carried out. The result of the regression model shown in table 4.23. Indicates the value of the regression coefficient (**R= .173 , R-square =. 030 and adjusted R- square = -.027**for customer satisfaction indicates that the aggregated effect of Supply Chain Capability and Responsibility on customer satisfaction is explained by the value of the R square, which indicates that **3 %** of Supply Chain Capability and Responsibility this indicates that Supply Chain Capability and Responsibility is highly accounted for customer Satisfaction . It also means that only **3 %** of the change in customer satisfaction is explained by Supply Chain Capability and Responsibility on pharmaceutical import and distribution in Addis Ababa.

Table 4.24 Regression Analysis between Supply Chain Capability, Responsibility and customer satisfaction

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	4.502	2.465	-.090	1.827	.077
Supply Chain Capability	-.071	.134		-.529	.600
Responsibility	-.134	.165	-.139	-.816	.420

(Source: researcher's survey)

a Dependent Variable: Over all how you satisfied on pharmaceutical import and distribution

dependent variable	independent variables	B coefficients	constant (a)
Y= Customer satisfaction	X1= Supply Chain Capability	b1= -.071	a = 4.502
	X2=Responsibility	b2= -.134	

4.5.3Regression Coefficients Analysis

The coefficients and the constant is calculated Using spss version 20 In this situation the results are interpreted as shown below:

Multiple regression equation assumes the form $Y = a + b1X1 + b2X2$ where $X1$, and X2, are two independent variables (Supply Chain Capability and Responsibility) can affect Y being the dependent variable(customer satisfaction), and the constants a, $b1$, and b2, can be solved by the following equations:

$Y = a + b1X1 + b2X2$ Customer satisfaction= 4.502 + -.071 X1 +-.134 X2

From the above regression equation Each unit change in X produces a change of b in Y +ve for direct and –ve for inverse relationship. We can say all the independent variable coefficients are all -ve means (Supply Chain Capability and Responsibility) they have inverse relationship with customer satisfaction. From the above relationship amongst variables Supply Chain Capability -7.1% and Responsibility-13.4% so pharmaceutical import and distribution sector should make more emphasis to improve on Supply Chain Capability and Responsibility.

4.6 Regression Analysis Regarding Community pharmacies integration with Suppliers, Community pharmacies integration with Customers and Information sharing practices with customer satisfaction

Table 4.25 Correlation Analysis between Community pharmacies integration with Suppliers, Community pharmacies integration with Customers, Information sharing practices and customer satisfaction

Correlations

		Over all how you satisfied on pharmaceutical import and distribution	Community pharmacies integration with Suppliers	Community pharmacies integration with Customers	Information sharing practices
Pearson Correlation	Over all how you satisfied on pharmaceutical import and distribution	1.000	-.044	-.028	-.007
	Community pharmacies integration with Suppliers	-.044	1.000	.896	.860
	Community pharmacies integration with Customers	-.028	.896	1.000	.923
	Information sharing practices	-.007	.860	.923	1.000
Sig. (1-tailed)	Over all how you satisfied on pharmaceutical import and distribution	.	.329	.392	.474
	Community pharmacies integration with Suppliers	.329	.	.000	.000
	Community pharmacies integration with Customers	.392	.000	.	.000
	Information sharing practices	.474	.000	.000	.
N	Over all how you satisfied on pharmaceutical import and distribution	102	102	102	102
	Community pharmacies integration with Suppliers	102	102	102	102
	Community pharmacies integration with Customers	102	102	102	102
	Information sharing practices	102	102	102	102

(Source: researcher's survey)

4.6.1 Correlation Analysis

As shown in the objective and conceptual framework of this study, to test the relationship between pharmaceutical import and distribution with customer satisfaction, the following correlation analysis is performed. As we can see it on table 4.25Community pharmacies integration with Suppliers(r=**-.044), Community pharmacies integration with Customers(r=-.028) and Information sharing practices(r=-.007**) this shows that all have negligible association.

Table 4.26 Model Summary analyses between Community pharmacies integration with Suppliers, Community pharmacies integration with Customers, Information sharing practices and customer satisfaction

Model Summary				
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
.079[a]	.006	-.024	.86519	1.079

(Source: researcher's survey)

a. Predictors: (Constant), Information sharing practices, Community pharmacies integration with Suppliers, Community pharmacies integration with Customers

b. Dependent Variable: Over all how you satisfied on pharmaceutical import and distribution

4.6.2 Model Summary Analysis

To assess the extent of impact of Information sharing practices, Community pharmacies integration with Suppliers and Community pharmacies integration with Customers on customer satisfaction, simple regression analysis was carried out. The result of the regression model shown

in Table 4.26 indicates the value of the regression coefficient (**R= .079 R- square = .006 and adjusted R- square = -.024**) for customer satisfaction .the aggregated effect of assurance on customer satisfaction is explained by the value of the R square, which indicates that only 0.06 % of the change in customer satisfaction is explained by of Information sharing practices , Community pharmacies integration with Suppliers and Community pharmacies integration with Customers. According to this highly accounted specifically for customer Satisfaction.

Table 4.27 Regression analyses between Community pharmacies integration with Suppliers, Community pharmacies integration with Customers, Information sharing practices and customer satisfaction

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	2.050	.894		2.292	.024
Community pharmacies integration with Suppliers	-.041	.076	-.059	-.543	.588
Community pharmacies integration with Customers	-.022	.115	-.059	-.191	.849
Information sharing practices	.062	.106	.156	.584	.561

(Source: researcher's survey

dependent variable	independent variables	B coefficients	constant (a)
Y= Customer satisfaction	X1=Community pharmacies integration with Suppliers	b1= -.041	a = 2.050
	X2= Community pharmacies integration with Customers	b2= -.022	
	X3= Information sharing practices	B3=.062	

4.6.3. Regression Coefficients Analysis

The coefficients and the constant is calculated Using spss version 20 In this situation the results are interpreted as shown below:

Multiple regression equation assumes the form $Y = a + b1X1 + b2X2$ +b3X3where $X1$, X2, and x3 are three independent variables (Information sharing practices , Community pharmacies integration with Suppliers and Community pharmacies integration with Customers) can affect Y being the dependent variable(customer satisfaction), and the constants a, $b1$, and b2, and b3can be solved by the following equations:

$Y = a + b1X1 + b2X2$ +b3X2

Customer satisfaction= 2.050+ -.041 X1 + -.022X2 and .062X3

From the above regression equation each unit change in X produces a change of b in Y +ve for direct and –ve for inverse relationship. The independent variable coefficients are -ve means(Community pharmacies integration with Suppliers and Community pharmacies integration with Customers) they have inverse relationship with customer satisfaction and Information sharing practices is +ve means has direct relationship with customer satisfaction. From the above relationship amongst variables Information sharing practices -4.10%,Community pharmacies integration with Suppliers-2.2% and Community pharmacies integration with Customers 6.2% according to this pharmaceutical import and distribution sector should make more emphasis to improve Information sharing practices, Community pharmacies integration with Suppliers and Community pharmacies integration with Customers.

4.10 Interview Result

In addition to the above analysis of descriptive and regression statistics from company Employees and distributors perspective, interview guide was prepared and conducted with Technical manager of wholesalers. The result of the interview analysis was organized as follows:

1.) Is there any challenges to order and distributed pharmaceutical products from importers? If you say yes please mention

Answer by technical manager:

- Yes, When we order and distributed pharmaceutical products there is so many challenges like pharmaceutical product availability, cost fluctuation. In addition to this the ordering and distribution system the payment method mostly is credit based due to this difficult to collect cash money and when we order desired pharmaceutical products pharmaceutical importers added un flow products without our interest. This shows that there is a big challenge between pharmaceutical importers and customers to order and distributed pharmaceutical products in the market .

2.) Is there any difficulty to order pharmaceutical products from importers? If you say yes please mention

Answer by technical manager

- When we order pharmaceutical products and to get credit from importers first we have to order by cash up to maximum order target to accept our organization .This is the major

obstacle for newly established company. this shows that newly established pharmaceutical company cannot get credit easily

3.) Is there any customer compliance by importers regarding pharmaceutical import and distributed system? If you say yes please mention.

Answer by technical manager

- . Yes, most customers complain by shortage of pharmaceutical products and fluctuation of the cost of pharmaceutical products on the market. this shows that there is highly shortage of pharmaceutical products and fluctuation of the cost of pharmaceutical products on the market

4.) Is there any criteria to select, order and distributed the same pharmaceutical products from importers

Answer by technical manager

- There is no criteria to select, order and distributed pharmaceutical products. Most time going on by traditional method. This shows that pharmaceutical sectors do not have clear and eligible system.

5.) How do you select the same pharmaceutical products from varies importers?

Answer by technical manager

- Mostly we select pharmaceutical products according to the relationship to pharmaceutical importers. This indicates that pharmaceutical sectors select the same pharmaceutical products by only good relationship.

6.) How pharmaceutical importers compete in the market?

Answer by technical manager

- Most pharmaceutical importers compete in the market by give commotion to technical managers, retail pharmacy hades and doctors to give order and to prescribe there brands .this shows that doctors and pharmaceutical professionals make un ethical things.

7.) Pharmaceutical importers distributed products based on customer need. If you say no please mention.

Answer by technical manager

No, most time there is unavailability of pharmaceutical products due to this reason customer continuously shift one brand to another brand. Due to this reason patients may develop drug resistance.

8.) How do you handle your customers?

Answer by technical manager

Most time customer handling is not our primary concern our primary concern is only available pharmaceutical products in the market. this shows that there is highly shortage of pharmaceutical products in the market .

9.) How do you compete in the market?

Answer by technical manager

- Most time we compete in the market by commotion method because most of retail hade pharmacists and doctors adapted commotion to order and prescribe pharmaceutical brands from un responsible pharmaceutical organization if we can't follow this procurer we can't get order and prescription for our brands .

Chapter Five

Summary of Major Findings, Conclusion and Recommendations

This final chapter contains the study summary, conclusion and recommendation with regards to pharmaceutical import and distribution and how it affects customer satisfaction in wholesalers and retail pharmacies in Addis Ababa Ethiopia.

5.1 Summary of the study

Based on the analysis and interpretation of data in chapter 4 of this research work, the Following findings were made.

Descriptive analysis and interview with Technical Managers has verified the prevalence of these characters of relationship. Regarding supply chain efficiency conveys group mean value of 2.231.this implies that supply chain efficiency on pharmaceutical import and distribution is poor. With regard to supply chain collaboration conveys group mean value of 2.2254 this indicates that supply chain collaboration on pharmaceutical import and distribution is poor .regard with Wholesalers integration with importers conveys group mean value of 2.38235 this shows that wholesalers integration with pharmaceutical importers is poor.

Descriptive data and interview With regard to wholesalers integration with customers sales representatives verified group mean value of 1.688 .this indicates that wholesalers integration with customers is very poor .Descriptive data and interview with regard to supply chain management practices conveys group mean value of 1.6482 .this shows that the supply chain management practice is very poor .descriptive analysis and interview with retail pharmacy heads has verified regard with the Supply Chain Capabilities conveys group mean value of 1.5282 the descriptive data and interview analysis conveys the supply chain capabilities is very poor. Descriptive data analysis regard to Responsibility the conveys group mean value of 1.551.this indicates that the responsibility on pharmaceutical import and distribution is very poor. Descriptive analysis and interview with retail pharmacy dispensary pharmacists has verified regard with the Retail pharmacy integration with Suppliers the conveys group mean value of 2.148.this indicates that retail pharmacy has poor integration with suppliers. Descriptive data analysis regard to Retail pharmacies integration with Customers the conveys group mean value

of 2.1078 this implies that the integration of retail pharmacies with customers is poor .descriptive data analysis regard to Information sharing practices the conveys group mean value of 2.3739. This implies that information sharing practice is also poor.

The test result of wholesalers integration with importers, Supply chain collaboration and supply chain efficiency on customer satisfaction the value of **R-square** is (**R=**.045) indicates that **4.5 %** of the change in customer satisfaction is explained by Wholesalers integration with importers, Supply chain collaboration and Supply Chain efficiency on pharmaceutical import and distribution .The test result of supply chain management practices and Wholesalers integration with customers on customer satisfaction the value of **R-square** is(R==**. 005)** for customer satisfaction indicates that the aggregated effect of supply chain management practices and Wholesalers integration with customers on customer satisfaction is explained by the value of the R square, which indicates that **0.5 %** of the change in customer satisfaction is explained by supply chain management practices and wholesalers integration with customers. The test result of Supply Chain Capability and Responsibility on customer satisfaction the value of **R-square** is(**R-square =. 030)**for customer satisfaction indicates that the aggregated effect of Supply Chain Capability and Responsibility on customer satisfaction is explained by the value of the R square, which indicates that **3 %** of the change in customer satisfaction is explained by Supply Chain Capability and Responsibility .The test result of Information sharing practices, Community pharmacies integration with Suppliers and Community pharmacies integration with Customers on customer satisfaction, the value of **R-square** is **(R- square = .006)** for customer satisfaction .the aggregated effect of assurance on customer satisfaction is explained by the value of the R square, which indicates that only 0.06 % of the change in customer satisfaction is explained by of Information sharing practices , Community pharmacies integration with Suppliers and Community pharmacies integration with Customers.

5.2. Conclusions

Based on the results of the study obtained and summary of findings the following conclusions are given. The eventual conclusion of this study is that generally, pharmaceutical importers towards supply chain management and information sharing practice is traditional. That lacks substantial indicators of an integrated, efficient and effective supply chain management .in addition pharmaceutical importers compete in the market by commotion based or by un ethical way that lacks collaboration, responsibility and Supply Chain Capability to customers. This reflected on customers fluctuate the market price of pharmaceutical products.

Based on qualitative and quantitative analysis the investigator comes up with conclusion that the pharmaceutical importers and distributors ‟ orientation towards customer satisfaction is poor and supply chain capability ,responsibility, collaboration supply chain management practices have direct impact on customers‟ satisfaction. The primary reason mentioned for poor level of customer service is wholesaler integration and retail pharmacies integration to pharmaceutical importers and distributors this reflected on customers not getting what they need ,when they need it in addition to this not having responsibility and efficiency this respond to the changing customer preference and un able to compete in the market due to frequently market changes .

5.3 Recommendations

The management of pharmaceutical importers of Addis Ababa city need to understand how their customers rate the service quality, what critical dimensions contribute to improving the service quality; would have ultimately satisfy customers based on the customer satisfaction level. Therefore, the pharmaceutical importers should be equipped with highly qualified and dedicated personnel and establish qualitative working systems that pay attention to its customers to maintain a conducive and higher level of customer satisfaction. Technical managers for wholesales , sales representatives Head pharmacist of the retail pharmacies and dispensary pharmacists in particular can use the findings of this study to identify the most important dimensions which contribute much in quality service to their customers. In relation to the finding, the researcher came up with the following recommendations.

1, the selection and purchasing of pharmaceutical products takes place not only by technical managers and head pharmacists to reduce un ethical integrations

2, allocate clear and eligible management system to control the distribution of pharmaceutical products in the market

3, Adequate budget should be allocated for procurement of pharmaceutical products so that to reduce unavailability of pharmaceutical from the market.

4, information sharing among retail pharmacies, whole sales, pharmaceutical imports and other suppliers should be improved

5, the government should be involve the sealing price of pharmaceutical in the market to control un wanted inflation of cost for customers .

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Appendixes

Appendix : Questionnaire

Questionnaire (English)

ST.MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES BUSINESS DEPARTMENT MASTER'S DEGREE IN GENERAL BUSINESS ADMINISTRATION QUESTIONNAIRE FOR CUSTOMERS.

Annex 1. Questionnaire to Technical Managers for Pharmaceutical Wholesalers .

Customer Satisfaction on Pharmaceutical Import and Distribution: The case of certain Pharmaceutical Importers in Addis Ababa, Ethiopia.

1. Sex: □Male □ Female

2. Age: □20-25 years □ 26-30 years □ 31-35 years □36- 40 years □Above 40 years

3. Educational Qualification: □Grade 10 completed □ Grade 12 completed □ Certificate □College diploma □ First Degree □ Second degree □

I Verbal consent form before administering the questionnaire to the Technical manager "Good day to you. My name is NitsuhWorku. I am a student of General Business Administration in ST. Mary's University. I am here to collect data about the Customer Satisfaction on Pharmaceutical import and distribution of your facility that is needed for my thesis titled:" Customer satisfaction on pharmaceutical import and distribution: The case of certain pharmaceutical importers in Addis Ababa, Ethiopia". This survey is done in all thirty- five (35) wholesalers and (37) retailers

of Addis Ababa, Ethiopia. Your facility is selected because it is one of them. The research will provide an empirical snap shot of the current customer satisfaction on pharmaceutical import and distribution at wholesale level in Addis Ababa and provide baseline information to track changes and improvements in pharmaceutical import and distribution performance over view I would like to ask you few questions about promotion, selection, acquisition, procurement, sales, distribution of pharmaceutical products and the pharmaceutical stock management. To fill the questionnaire it will take 15-20 minutes of your time.

Your participation is completely voluntary. You can refuse to answer any questions and/or withdraw from the study at any time. All of the information collected is strictly confidential. No one other than the research team will have access to your responses. Your personal identifiers such as your name and that of individual facilities in the report, but rather will describe the overall picture of all facilities.

II. Facility Identification

How long you have worked as a Technical Manager?

0-5 years □ 5-10 years □ 10-20 years Above20 years □

III. Questioner related to Supply Chain Efficiency, Supply chain collaboration and Wholesalers integration with importers.

SN	Variables	Strongly disagree	Disagree	Don't know	Agree	Strongly agree
I	**Supply Chain Efficiency**					
1	Pharmaceutical Products fulfill your need in terms of quality.					
2	The Prices of the pharmaceutical products are					

	reasonable.					
3	The Prices of the Pharmaceutical Products are not volatile.					
4	The Ordering system of Pharmaceutical Products from Importers is convenient for wholesalers.					
5	Customers Can fulfill their orders without any suffering					
6	Imported pharmaceutical products fulfills your need in terms of quantity					
7	Pharmaceutical importers fulfill customer needs					
II	**Supply chain collaboration**					
8	Pharmaceutical promoters promote their products to					

	pharmacists without any difficulties					
9	Pharmaceutical promoters promote pharmaceutical products to doctors without any difficulties					
10	Overall relationship with Pharmaceutical importers is excellent					
11	Importers deliver pharmaceutical Products on time to Customers					
12	Pharmaceutical Products distributed in the market without any difficulties.					
13	Pharmaceutical competitors compete in the market based on ethical way.					
III	**Wholesalers integration with importers**					
14	The purchase and distributed system from Importers is					

	suitable for Wholesalers					
15	Wholesalers purchase pharmaceutical products from importers based on equal and legal method					
16	Pharmaceutical importers has good relationship with wholesalers					
17	Importers Follow-up wholesalers for feedback					
18	Importers equally and fairly distributed pharmaceutical products to wholesalers					
19	The System to Order Pharmaceutical Products from Importers is Clear and eligible.					
20	Over all How you Satisfied on Pharmaceutical import and Distribution	Strongly dissatisfied	Dissatisfied	Satisfied	Strongly satisfied	

IV Open-ended Questions.

1. Is there any challenges to order and distributed pharmaceutical products from importers ?if you say yes please mention

2. Is there any difficulty to order pharmaceutical products from importers? if you say yes please mention

3. Is there any customer compliance by importers regarding pharmaceutical import and distributed system? if you say yes please mention

4. Is there any criteria to select, order and distributed the same pharmaceutical products from importers

5. How do you select the same pharmaceutical products from varies importers?

6. How pharmaceutical importers compete in the market?

7. Pharmaceutical importers distributed products based on customer need. if you say no please mention

8. How do you handle your customers?

9. How do you compete in the market

Annex II. Questionnaire to Sales Representatives for Pharmaceutical Wholesalers .

Customer Satisfaction on Pharmaceutical Import and Distribution: The case of certain pharmaceutical importers in Addis Ababa, Ethiopia.

Pharmaceutical wholesalers in Addis Ababa march 2020

Respondents Profile

1. Gender : □Male □ Female

2. Age: □20-25 years □ 26-30 years □ 31-35 years □36- 40 years □Above 40 years

3. Educational Qualification: □Grade 10 completed □ Grade 12 completed □ Certificate □College diploma □ First Degree □ Second degree □

I Verbal consent form before administering the questionnaire to Sales personnel. "Good day. My name is _____ I am working with the research team of the Department of General Business Administration in ST. Mary's University Addis Ababa, Ethiopia. I am here to collect data about the Customer satisfaction on pharmaceutical import and distribution of your facility that is needed for my thesis titled: Customer satisfaction on pharmaceutical import and distribution: The case of certain pharmaceutical importers in Addis Ababa Ethiopia. This survey is done in all selected thirty- five (35) wholesalers and (37) retailers in Addis Ababa. Your facility is selected because it is one of them.

The research will provide an empirical snap shot of the current Customer satisfaction on pharmaceutical import and distribution at wholesale level in Addis Ababa and provide baseline information to track changes and improvements in pharmaceutical import and distribution performance over view I would like to ask you few questions about selection, acquisition, procurement, promotion, sales, distribution of pharmaceutical products and the pharmaceutical stock management. The interview will take 15-20 minutes of your time.

Your participation is completely voluntary. You can refuse to answer any questions and/or withdraw from the study at any time. All of the information collected is strictly confidential. No one other than the research team will have access to your responses. Your personal identifiers such as your name and that of individual facilities in the report, but rather will describe the overall picture of all facilities.

For comments/questions please contact Nitsuh Worku(0921309276), Student Researcher

III Facility Identification

How long you have worked as a Sales representative?

0-5 years □ 5-10 years □ 10-20 yearsAbove20 years □

IV Questioners related to wholesalers integration with customers and supply chain management practices on customer satisfaction.

SN	Description	Yes	No	Remarks	Comments
A	**Wholesalers integration with customers**				
1	Do you Sale Pharmaceutical Products based on Customer need?				
2	Is there Customer compliance when you sale and distributed pharmaceutical products?			If say yes mention	
3	Do you think pharmaceutical importers works to satisfy their customers			If say yes mention	

4	Do you do anything to satisfying your customers?			If say yes mention	
B	**Questioner related to supply chain management practices.**				
5	Are you Satisfied by your Technical Manager when he/she order pharmaceutical products?			If say no please mention	
6	Is there clear management system in your organization?				
7	Do you participate in product selection and ordering process from importers			If no please mention	
8	When you sale and distributed pharmaceutical products to customers based on ethical and healthy way			If no please mention	

9	Is there any un ethical order , sale and distribution system perform in your organization?			If say yes please mention		
10	Is there any mechanism doing by your organization to compete in the market?			If say yes please mention		
11	Do you agree all pharmaceutical products sale and distributed in the market in Ethical way?			If say no please mention		
12	Is there any product selection criteria When you receive order, sale and distributed pharmaceutical products					
13	Over all how you Satisfied on Pharmaceutical import and distribution	Strongly dissatisfied	Dissatisfied	Neutral	Satisfied	Strongly satisfied

Annex III. Questionnaire to Retail Pharmacy Head

Customer Satisfaction on Pharmaceutical Import and Distribution: The case of certain Pharmaceutical Importers in Addis Ababa, Ethiopia.

Retail pharmacy Head in Addis Ababa march 2020

Respondents Profile

1. Gender: □Male □ Female

2. Age: □20-25 years □ 26-30 years □ 31-35 years □36- 40 years□Above 40 years

3. Educational Qualification: □Grade 10 completed □ Grade 12 completed □ Certificate □College diploma □ First Degree □ Second degree □

I Verbal consent form before administering the questionnaire to the head pharmacist personnel. "Good day. My name is _____ I am working with the research team of the Department of General Business Administration in ST. Mary's University Addis Ababa, Ethiopia. I am here to collect data about the Customer satisfaction on pharmaceutical import and distribution of your facility that is needed for my thesis titled: Customer satisfaction on pharmaceutical import and distribution: The case of certain pharmaceutical importers in Addis Ababa, Ethiopia. This survey is done in all selected thirty- five (35) wholesalers and (37) retailers in Addis Ababa. Your facility is selected because it is one of them. The research will provide an empirical snap shot of the current Customer satisfaction on pharmaceutical import and distribution at retailer level in Addis Ababa and provide baseline information to track changes and improvements in pharmaceutical import and distribution performance over view I would like to ask you few questions about selection, acquisition, procurement pharmaceutical products and the pharmaceutical stock management. The interview will take 15-20 minutes of your time.

Your participation is completely voluntary. You can refuse to answer any questions and/or withdraw from the study at any time. All of the information collected is strictly confidential. No one other than the research team will have access to your responses. Your personal identifiers such as your name and that of individual facilities in the report, but rather will describe the overall picture of all facilities.

For comments/questions please contact NitsuhWorku (0921309276), Student Researcher

V Facility Identification

How long you have worked as a Pharmacy Head?

0-5 years □ 5-10 years □ 10-20 years Above20 years □Empathy

IV Questioners related to Supply Chain Capability and Responsibility for customer satisfaction.

SN	Description	Yes	No	Remarks	Comments
1	**Supply Chain Capability**				
1.1	Is there any documented policy or guiding for drug selection?				
1.2	Does the Head Pharmacist do the Selection, Quantification, Procurement?				
1.3	Do you use cost of the drugs or preference of well-known drugs as the criteria for drug selection in the Pharmacy?				
1.4	Are wholesalers your major customers to purchase drugs?				
1.5	Is there any document policy or guideline for procurement of drugs?				
1.6	Is there any document policy or guideline for drug forecasting?				
1.7	Is the procurement limited to the essential				

	drugs list?				
1.8	Is procurement made by generic name?				
1.9	Do you often purchase drugs from private supplies?				
1.10	Are there price fluctuation of some drugs through short period of time?				
1.11	Is there a deficiency in selection, quantification and storage of pharmaceutical products in your pharmacy?				
2	**Responsibility**				
2.12	Do you encounter poor quality product?				
2.13	Do you encounter expiration of drugs?				
2.14	Do you face irrational prescribing?				
2.15	Do you check the stock level of essential drugs?				
2.16	Do you think Pharmaceutical Promoters promote their brands without any difficulties in your organization?				

2.17	Over all how you satisfied on pharmaceutical import and distribution	Strongly dissatisfied	Dissatisfied	Neutral	satisfied	Strongly Satisfied

Annex IV Questionnaire to Dispensary Pharmacists

Customer Satisfaction on Pharmaceutical Import and Distribution: The case of certain Pharmaceutical importers in Addis Ababa, Ethiopia.

Respondents Profile

1. Gender □Male□ Female

2. Age: □20-25 years □ 26-30 years □ 31-35 years □36- 40 years □Above 40 years

3. Educational Qualification: □Grade 10 completed □ Grade 12 completed □ Certificate □College diploma □ first Degree □Second degree

I Verbal consent form before administering the questionnaire to dispensing personnel. "Good day. My name is _____ I am working with the research team of the Department of General Business Administration in ST. Mary's University Addis Ababa, Ethiopia. I am here to collect data about the Customer satisfaction on pharmaceutical import and distribution of your facility that is needed for my thesis titled: Customer satisfaction on pharmaceutical import and distribution: The case of certain pharmaceutical importers in Addis Ababa Ethiopia. This survey is done in all selected thirty- five (35) wholesalers and (37) retailers in Addis Ababa. Your facility is selected because it is one of them. The research will provide an empirical snapshot of the current Customer satisfaction on pharmaceutical import and distribution at Retailer level in Addis Ababa and provide baseline information to track changes and improvements in pharmaceutical import and distribution performance over view I would like to ask you few questions about availability of pharmaceutical products and the functioning of pharmaceutical supply chain system. The interview will take 15-20 minutes of your time.

I would like to ask you few questions about availability of drugs and the functioning of pharmaceutical supply chain system. The interview will take 10-15 minutes of your time. *Your* in view of the stated problem, the grand research question is participation is completely voluntary. You can refuse to answer any questions and/or withdraw from the study at any time. All the information collected is strictly confidential. No one other than the research team will have access to your responses. Your personal identifiers such as your name and that of your health facility will not be used. The principal investigator will not refer to individual respondents or individual facilities in the report, but rather will be described the overall picture of all facilities. For comments/questions please contact NitsuhWorku(0921309276), Student Researcher

V Facility Identifications

How long you have worked as a dispenser?

0-5 year's □ 5-10 year's □ 10-20years above20 years □

Part II. Profile for Supply Chain Management Practices Using the following Rating Scales under the columns, circle only on one number from the given numbers in the box after reading the variable on the left hand.

IV Questioners related to Retail pharmacies integration with Suppliers, Retail pharmacies integration with Customers and Information sharing practices to satisfy customers
The numbers represent: 1-Very Low,2-Low, 3Average, 4-High and 5 Very high

SN	Variables	Rating Numbers				
A1	**Retail pharmacies integration with Suppliers**	Strongly disagree	Disagree	Don't know	Agree	Strongly agree
1	The level of strategic partnership with Suppliers	1	2	3	4	5

2	The establishment of quick ordering system	1	2	3	4	5
3	Stable procurement through network	1	2	3	4	5
4	The retail pharmacy seeks long-term stable relationships with suppliers	1	2	3	4	5
5	The pharmacy heads solve problems jointly with their suppliers	1	2	3	4	5
6	Helped suppliers to improve their product quality	1	2	3	4	5
7	Included our key suppliers in Retail Pharmacies planning and goal setting activities	1	2	3	4	5
A 2	**Retail pharmacies integration with Customers**					
8	Follow-up customers for feedback.	1	2	3	4	5
9	Monitoring and measuring customer service level	1	2	3	4	5
10	The level of market information sharing with	1	2	3	4	5

	major customers.					
11	Customer feedback is used to improve Customer relations, processes, products and services	1	2	3	4	5
12	The organization has systematic processes for handling customer complaints	1	2	3	4	5
B	**Information sharing practices**					
13	Sales forecast information sharing with Customers	1	2	3	4	5
14	Sales forecast information sharing with suppliers	1	2	3	4	5
15	Adequacy and quality of information sharing throughout the supply chain	1	2	3	4	5
16	Medical representatives promote their brands freely and ethical way in your organization	1	2	3	4	5
17	The head pharmacist order pharmaceutical products based on customer need	1	2	3	4	5
18	The doctors prescribe pharmaceutical products by brands.	1	2	3	4	5
19	Overall efforts of Inter-organizational information coordination and sharing	1	2	3	4	5

20	Over all your satisfaction on pharmaceutical import and distribution	Strongly dissatisfied	Dissatisfied	Neutral	satisfied	Strongly Satisfied

Annex V: List of Wholesalers Included in the Study

S.No	Name of the Institutions (35)	Region/City	Keb	H.No
1.	Admas Pharmaceuticals Human Medicine and medical Supplies wholesaler	AA	03/05	New
2	Wadan Human Medicine & Medical Supplies Wholesaler	AA		
3	Hereber Pharmaceuticals	AA		
4	U Three System	AA		
5	Yeameta Pharmaceuticals	AA		
6	Vital Pharmaceuticals	AA		
7	TensayBirhan Pharmaceuticals	AA		
8	Fasih Pharmaceuticals	AA		
9	Meaza Pharmaceuticals	AA		
10	Purepura pharmaceuticals	AA		
11	Pharmanetworking Pharmaceuticals	AA		
12	Roha Pharmaceuticals	AA		
13	Bakkal Pharmaceuticals	AA		
14	Yes Pharmaceutical	AA		
15	Bez Pharmaceuticals	AA		

16	Fam Pharmaceuticals	AA		
17	Washa Pharmaceuticals	AA		
18	Tolif Pharmaceuticals	AA		
19	Megnagha Pharmaceuticals	AA		
20	Jemma pharmaceuticals	AA		
21	Mede plus	AA		
22	Blue TG	AA		
23	Abdulhameza pharmaceuticals	AA		
24	Lopha Pharmaceuticals	AA		
25	DesaleghTeshome	AA		
26	Global Pharmaceuticals	AA		
27	Abo Medicals	AA		
28	Arebulss Pharmauticals	AA		
29	Woyra pharmaceuticals	AA		
30	Judes pharmaceuticals	AA		
31	Sunshine pharmaceuticals	AA		
32	inshumd Trading PLC	AA		
33	PHARMA UNION PLC/A.A	AA		
34	Edi Pharma	AA		
35	Ruth Pharmaceutical Medecine Sup	AA		

Annex VI: List of Retail Pharmacy Included in the Study

S.No	Name of the Institutions (37)	Region/City	Keb	H.No
1	Cadisko hospital pharmacy	AA		
2	Coria hospital pharmacies	AA		
3	Amago Pharmacy	AA		
4	Axum Pharmacey #6	AA		
5	Geshen Pharmacy#1	AA		
6	Kidanemhret Pharmacy	AA		
7	Bezega hospital Pharmacy	AA		
8	Megebaresenay hospital pharmacy	AA		
9	Grum Hospital Pharmacy	AA		
10	Denberua hospital pharmacy	AA		
11	Yerer Pharmacy hospital pharmacy	AA		
12	Betel Hospital pharmacy	AA		
13	Soloda pharmacy#3	AA		
14	Abesinia pharmacy #5	AA		
15	Alium Pharmacy #2	AA		
16	Dondor Pharmacy	AA		
17	Halelua hospital pharmacy	AA		
18	Zenbaba hospital pharmacy	AA		
19	Elros Pharmacy	AA		
20	Galanic Pharmacy	AA		

21	Megenagna Pharmacy	AA		
22	Meklit Pharmacy	AA		
23	Nile Pharmacy	AA		
24	Rama Pharmacy	AA		
25	Nordic hospital pharmacy	AA		
26	Teklehaymanot hospital pharmacy	AA		
27	MeronyaPhrmacey	AA		
28	Nile Pharmacy	AA		
29	Rama Pharmacy	AA		
30	Ruth pharmacy	AA		
31	Bellema pharmacy	AA		
32	Seik Pharmacy	AA		
33	Sunshine Pharmacy	AA		
34	Tabor Pharmacy	AA		
35	Endode pharmacy	AA		
36	Ethiopia pharmacy	AA		
37	GeremewNegash Pharmacy	AA		